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PROCEEDINGS  
of the  
American Society  
of  
Civil Engineers

TWO PARTS



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JANUARY, 1927

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# PROCEEDINGS

of the

## American Society

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VOL. LIII

JANUARY, 1927

No. 1

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## SOCIETY AFFAIRS

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# AMERICAN SOCIETY OF CIVIL ENGINEERS

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## PROCEEDINGS

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### SOCIETY AFFAIRS

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#### 1927 Annual Meeting

The announcement of the coming Annual Meeting of the Society recently issued to members gives full details of the pleasure and profit in store for those who may be privileged to attend.

In general, it will be noted that the arrangement of the sessions follows the plan that has been so successful in past years. A few details only deserve special mention.

One change in the method of presenting committee reports bids fair to be an improvement over the practice of former years. Instead of a large number of reports, necessarily curtailed because of insufficient time, an attempt will be made to confine the afternoon of Wednesday to a relatively small number with an increased elaboration. In this manner, it is expected to increase the general interest in this session by devoting more time to those reports that lend themselves to a more or less popular presentation and discussion, omitting the highly technical reports which require time and study in their printed form for an appreciation of their scope and value.

Doubtless the Entertainment and Smoker on Friday evening will prove a great attraction, continuing as it does the happy theme of the similar successful event of last year. Certainly no one who was present then will want to miss the sequel of Framem Reilly's engineering career. To any who did not become acquainted with this illustrious gentleman and well-known engineer it is enough to say that his experiences contain a real lesson to all his fellows.

The All-Day Excursion on Friday follows the general policy of similar day trips that have proved justly popular in years gone by. The social advantages of a trip by special train with an enjoyable lunch followed by numerous engineering inspections have attracted wide and favorable comments. Usually a trip of this sort makes a most fitting finale to the Annual Meeting.

For the benefit of the Local Committee on Arrangements it is especially desirous that every member should forward his ticket order as promptly as possible.

#### Elmer A. Sperry Receives John Fritz Medal

The John Fritz Medal for the year 1927 has been awarded to Elmer Ambrose Sperry, a noted inventor and manufacturer. This medal, awarded annually by the four Founder Societies, is in honor of the late John Fritz, Hon. M. Am. Soc. C. E., to commemorate notable scientific or industrial achievement. It has come to signify one of the highest, if not the highest, honor in the gift of American engineers.

Specifically, the current award to Mr. Sperry is "for the development of the gyrocompass, and the application of the gyroscope to the stabilization of ships and aeroplanes." This particular field of the gyroscope is only one of the many spheres of activity included in Mr. Sperry's notable inventions. Indeed, a list of the devices with which his name has been long and prominently identified makes an imposing array.

Even before he was out of his 'teens, he began his successful career with an invention of an electrical arc light. Quite logically, then, came a more recent development of arc lighting which exceeded in brilliancy any previous arc by 700 per cent. This form of light is now a standard for night aerial flying, motion picture work, and other uses.

Although electrical inventions have constituted a large part of Mr. Sperry's work, probably his greatest achievements have had to do with the use of the gyroscope, largely in connection with navigation, both on water and in the air. The gyrocompass, gyroscopic stabilizer, and gyro pilot—the latter an automatic device for steering ships—are favorably known and appreciated all over the world.

As an innovation in the matter of giving this award, it was decided for the future, to present it at the Annual Meeting of one of the four Founder Societies. This year, the honor has fallen to the American Society of Mechanical Engineers, of which Mr. Sperry is a life member. The presentation ceremonies took place on the evening of December 7, 1926, during the Annual Meeting of that Society.

The American Society of Civil Engineers, as one of the affiliated Societies awarding this Medal, is pleased to cooperate thus in doing homage to a prominent and worthy American engineer.

#### December Society Meeting— Suspension Bridges

The subject of suspension bridges is a live and fascinating topic to New York engineers, judging by the Society Meeting of December 1, 1926. The specific question related to quantities and unit costs for long-span suspension bridges, based on a paper by J. A. L. Waddell, M. Am. Soc. C. E., and delivered, in his absence, by Shortridge Hardesty, M. Am. Soc. C. E., according to the general description as given in the November, 1926, *Proceedings*.

Following this introduction a live and continuous discussion occupied the remainder of the meeting. The question of relative costs of eye-bar chain *versus* wire cables was treated by William G. Grove, M. Am. Soc. C. E., using slides depicting the erection of the Florianopolis Suspension Bridge in Brazil to illustrate his point.

Next O. H. Ammann and Leon S. Moisseiff, Members, Am. Soc. C. E., dwelt particularly on the design of the stiffening

trusses, including the comparison between the elastic theory and the deflection theory for their design.

Further, Allston Dana, F. W. Skinner and T. Kennard Thomson, Members, Am. Soc. C. E., gave informal discussions of a more general character, occupying the full remaining time of the meeting.

The entire treatment was characterized by the aptness of the commendation and criticism, and the sustained interest of these in attendance. W. T. Chevalier, Director of the Society, presided, about 125 being present.

#### Society Appointments

Members have been appointed to act for the Society in the following capacities:

Public Relations Committee, Sub-Committee on Federal Re-Organization: P. M. Sax, M. Am. Soc. C. E.

American Association for the Advancement of Science: Philadelphia, Pa., December 27, 1926 to January 1, 1927: William Bowie, George Gibbs, Members, Am. Soc. C. E.

Sectional Committee for the Standardization of Graphic Presentation: H. de B. Parsons, M. Am. Soc. C. E.

Triennial Congress of the Permanent International Association of Navigation Congresses, Cairo, Egypt, December 9-21, 1926: J. C. Hoyt, M. Am. Soc. C. E.

Annual Convention of the American Mining Congress, Washington, D. C., December 7-10, 1926: Howard N. Eavenson, M. Am. Soc. C. E.

#### Strathcona Memorial Fellowships in Transportation

Yale University is fortunate in having available five yearly scholarships of \$1 000 each designed to stimulate advanced study in transportation, especially as to the engineering features of railroad construction, equipment, and operation. Provision is also made, however, for study of transportation by water, highways, and airways, so that a wide field for investigation is opened.

Applications are to be submitted by March 1 by men who have already received their first college degree. Members of the Society, particularly younger members or those from Student Chapters, should be especially interested in the Strathcona Fellowships. Full details, with proper application blanks, may be obtained from the Dean of the Graduate School of Yale University, New Haven, Conn.

### Government Publications of Engineering Interest

Suggestions that may add to the value of water power and water supply developments are made in a *Bulletin* just issued by the Forest Service, U. S. Department of Agriculture, entitled "The Financial Limitation in the Protection of Reservoirs", by W. W. Ashe.

It is evident that engineers are vitally interested in any phase of the protection of reservoirs, and the subject-matter of this *Bulletin* would also appeal to investors in water power and in municipal water supply securities as well as to managers of such properties. Among other things, one of the main subjects of discussion relates to the problem of siltage through erosion.

Engineers who have made a study of zoning—and this applies to many members of the Society, especially to those in the City Planning Division—may find material of value in two pamphlets recently issued by the U. S. Department of Commerce. One is entitled "A Standard State Zoning Enabling Act", and gives a suggested draft with copious notes explaining the purport of the various provisions.

The second is entitled "A Zoning Primer" and gives the gist of the zoning movement in a dozen pages or less. The names of Charles B. Ball and Morris Knowles, Members, Am. Soc. C. E., among those who have sponsored these zoning *Bulletins*, guarantee that the engineering features of zoning are adequately covered.

Copies of these publications are obtainable from the Government Printing Office, Washington, D. C., at a cost of 15 cents for the booklet on "Protection of Reservoirs" (34 pages) and 5 cents each for the zoning pamphlets.

### El Arte de los Metales

The Engineering Societies Library has to thank Mr. E. L. De Golyer, Vice-President of the American Institute of Mining and Metallurgical Engineers, for an un-

usually interesting addition to its collection of early engineering books—a copy of the rare first edition of Alvaro Alonso Barba's "El Arte de los Metales", published at Madrid in 1640, the earliest work published on American metallurgy.

Barba was an Andalusian, probably born on November 5, 1561, who became a priest and was sent to America prior to 1590. In 1615 he is found in Upper Peru (Bolivia), where he served various parishes for twenty-five years or more. He also became interested in mining, and speaks in his book of locating a vein of silver and erecting a mill. He claims to have discovered, in 1590, the method of pan amalgamation, and applied it successfully on a large scale.

His book is chiefly a detailed description of the metallurgical methods used in Peru, a topic on which his years of active work made him an authority. For many years it was in great demand and translations into French, German, and Italian were published. In 1670 the Earl of Sandwich, then Ambassador Extraordinary of Great Britain to Spain, published an English translation of the first two books of Barba's work, but his lack of technical knowledge made the translation of little value, and no adequate English translation appeared until 1923, when a translation by Messrs. Ross E. Douglass and E. P. Mathewson was published in New York.

Copies of the first edition of the work are extremely scarce. Douglass and Mathewson state that they could locate but three copies, all of which were in the British Museum. Mr. De Golyer's copy is therefore possibly only the fourth in existence.

Among the various editions of Barba's book another of special interest to Americans is one in German, published in 1763, at Ephrata, Pa. That the printing of a German translation, in Pennsylvania, more than a century after the book was written, should appear a profitable publishing risk, is an evidence of the great esteem in which the work was held. The Engineering Societies Library is so fortunate as to possess a copy of this edition, in the original binding.

## Report of Committee on Local Sections

To the Conference of Representatives of Local Sections,  
Philadelphia, Pa., October 6, 1926

As a preliminary to the discussion of this Conference, the Committee on Local Sections of the Board of Direction has thought that a somewhat brief statement of what it has tried to accomplish this year may be of interest to the delegates to this Conference, and may possibly stimulate discussion.

The principal work of the Committee on Local Sections last year was the preparation of the program for the Annual Conference of Local Sections. This year the Committee was, in addition to the work just mentioned, also charged with making a study of the financial and other needs of the various Local Sections, and of presenting to the Board of Direction the results of this study. This feature of our work is a result of the recommendations of the Aims and Activities Committee of the Board of Direction presented to the Board of Direction last October, and adopted by the Board.

### Recommendations in 1925

These recommendations were subsequently published in the *Proceedings*.\* In addition, the Committee on Local Sections included them in the letter which accompanied the questionnaire sent to the various Local Sections in the early summer of this year. These recommendations present the whole subject of Local Sections activities in such clear language, that I am going to read them at this time:

"In approaching the question of Local Section activities it should be recognized at the outset that the conditions under which each Section must work are peculiar to itself and that for this reason each Section should enjoy the fullest possible freedom in solving its own local problems. The needs of the San Francisco Section are quite different from those of the Illinois Section. Those of the Kansas Section differ from those of New York. Those of Ohio are unlike those of Louisiana. The degree and type of organization needed, the number of meetings, the activity in community of technical affairs—in fact, every detail of the administration of Local Sections will vary in different localities depending on a number of factors.

"In some cases it is evident that well-established local Engineering Societies are rendering excellent service to the profession and to the local members of our Society, as a result of which it is quite possible that the Local Sections may wish to limit their development and activities in order to prevent interference with the standing or activities of such existing local Societies.

"In view of these considerations your Committee urges that the supervision and control of the Society over the activities of the individual Local Sections be kept just as informal as practicable so that each Section may be free to adapt its work to the special needs of its locality."

\* \* \* \* \*

\* *Proceedings*, Am. Soc. C. E., February, 1926, Society Affairs, p. 41.



"The working out of the problems involved in the development of Local Sections is a matter of the utmost importance to the Society and your Committee has studied with great interest the methods employed by the Sections in approaching them. Much progress is being made and we would urge that the Society increase its efforts to help the Sections in this task.

"In order to extend such help where it may be most needed your Committee feels that it would be desirable for the Board of Direction to have a more intimate knowledge of just what are the financial and other needs of the several Sections. A recommendation to this effect is embodied elsewhere in this report, by which the Committee on Local Sections may be enabled to learn annually just what are the special needs of the several Sections and to submit to the Board of Direction appropriate recommendations as to how the Society can help the Sections most effectively in carrying out their plans."

\* \* \* \* \*

"1.—Recommended that each Section submit not later than October 1 of each year a statement of its activities during the preceding twelve months, including a financial statement of income and expenses, together with a budget of estimated income and requirements for the year beginning on the following January 1. The Committee on Local Sections should review these reports and budgets and transmit them to the Secretary of the Society together with its recommendations as to the relative allotments to be made to the various Local Sections, along with its recommendations, not later than December 1, so that he may be able to submit them to the Board of Direction in connection with the preparation of the Society Budget."

#### Questionnaire

As has been mentioned, the Committee on Local Sections sent out a Questionnaire, designed to bring out the nature and extent of the activities of the various Local Sections. We realized, I think, that we could not hope to gain an intimate knowledge of each Section by such a Questionnaire, but we believed that we would obtain a general idea of the relative condition of the Local Sections.

A study of the answers received has convinced us that our efforts were well worth while. Thirty-seven out of forty-five Sections have responded with the information desired. I shall not take the time to read the Questionnaire, but shall present a digest of the information received, thus indicating the nature of the most important questions. The order in which the various points are set forth is not necessarily indicative of their relative importance. The information is necessarily incomplete, and it is hoped that the subsequent discussion of this Conference will bring out many more details than have been possible to present here. I can hardly hope that errors have not been made, and trust that the delegates here will correct any statements which are not accurate.

*Age.*—The oldest Local Section is the San Francisco Section, organized in 1905 as the San Francisco Association of Members of the American Society of Civil Engineers. The youngest Section is the Arizona Section, organized in 1925.



*Membership.*—The largest Section is the New York Section with a membership of 731. The smallest Section is San Diego with a membership of 16. The second largest Section is San Francisco, having over 400 members. Los Angeles is third, practically as large as San Francisco. Texas is fourth. It is rather interesting that the two largest Sections are on opposite sides of the continent.

*Dues.*—The dues of the various Sections vary from \$1.00 per year to \$4.00 per year. Two dollars per year seems to be the favorite amount. The San Francisco Section has the highest dues—\$4.00 for resident members.

*Number of Regular Meetings.*—There is a wide variation in the number of regular meetings held—the variation being from weekly to the minimum of one meeting a year. In general, the activity of a Section may be inferred from the number of meetings held during the year, although there are certain marked exceptions. The Texas Section, for example, a State-wide association, holds but two regular meetings a year, yet Texas is possibly the most influential and active of all the Local Sections.

*Attendance.*—The attendance at meetings expressed in percentages of the membership show the widest variation. Possibly it is fair to say that the average of all the Sections is 30% of the membership.

*Character of Meetings.*—About 70% of the Sections hold either a dinner or luncheon in connection with their meetings. About the same percentage read or discuss technical papers. Apparently no Section discusses the papers of the Society, although it is believed that the Constitutions of a number of the Sections state this to be one of the objects of the Section.

*Affiliations.*—About 50% of the Sections reporting affiliate regularly with other engineering societies or clubs. This statement is only approximately accurate, as some of those answering apparently interpreted the use of an Engineers Club as a place of meeting to constitute affiliation with such club.

The Cincinnati Section holds one joint meeting a year with the Engineers Club of Cincinnati.

The Colorado Section is a constituent member society of the Colorado Engineering Society.

The Connecticut Section is affiliated with the Hartford Engineers Club. In addition, practically all its members belong to the Connecticut Society of Engineers, a strong organization.

The Illinois Section affiliates with the Western Society of Engineers.

The Lehigh Valley Section affiliates with the Engineers Club of Lehigh Valley.

The Los Angeles Section is a member of the Joint Technical Societies comprising all the local technical organizations and chapters of National Engineering Societies.

The Louisiana Section unites annually in a meeting with the Louisiana Engineering Society.

The New York Section affiliates not regularly but from two to three times a year with one or more of the Local Sections of the other Founder Societies.

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The Northeastern Section has three meetings yearly with the Affiliated Technical Societies. Members also attend the meetings of the Boston Society of Civil Engineers.

The North Carolina Section held one meeting last year with the Asheville Section of the American Society of Mechanical Engineers.

The Northwestern Section is a member of the Minnesota Federation of Architectural Societies, to which it subscribes \$3.00 per year per member of the Section.

The Oklahoma Section affiliates with the Local Chapter of the American Association of Engineers.

The Philadelphia Section affiliates with the Engineers Club of Philadelphia.

The Pittsburgh Section affiliates with the Engineers' Society of Western Pennsylvania.

The Providence Section is affiliated with the Providence Engineering Society.

The Rochester Section is affiliated with and a part of the Rochester Engineering Society.

The Sacramento Section meets once a month with the Local Chapter of the American Association of Engineers.

The San Francisco Section has representation in the San Francisco Engineering Council.

The St. Louis Section holds at least two meetings a year in conjunction with the Associated Engineering Societies of St. Louis.

The Syracuse Section is affiliated with the Technology Club.

The Utah Section is affiliated with the Engineering Council of Utah.

The Virginia Section affiliates with the Local Chapters of the American Society of Mechanical Engineers, the American Institute of Electrical Engineers, and local engineering clubs.

*Publications.*—The Texas and San Francisco Sections appear to be the only Sections that publish a regular *Proceedings*, in which all papers presented at the meetings are abstracted. The Texas *Proceedings* appear twice a year; the San Francisco *Proceedings* bi-monthly. In addition, Texas publishes the *Texas Engineer*, a monthly pamphlet.

The Los Angeles Section occasionally publishes papers of especial interest.

Year Books are published by the Los Angeles, New York, Philadelphia and San Francisco Sections.

The Colorado Section has space in *The Engineers' Bulletin*, a monthly pamphlet of about thirty-two pages, published by the Colorado Society of Engineers.

The Northeastern Section has space in the *Bulletin* of the Affiliated Technical Societies of Boston, a four-page pamphlet appearing ten times a year.

Both of these last two bulletins carry advertising.

*Participation in Local and Civil Affairs.*—The conclusion is reached that about 60% of the Sections participate to some extent in local civic affairs.

*Salaries for Secretary-Treasurers.*—Only two Sections, apparently, pay the Secretary-Treasurer a salary—San Francisco and Los Angeles.

*Active Sections.*—From a study of the returns of the Questionnaire the various Sections have been divided into three groups, viz., (1) decidedly active; (2) fairly active; and (3) not active.

Of the thirty-seven Sections responding ten have been classified as decidedly active, sixteen as fairly active, and eleven as not active. The corresponding percentages, based on a total of thirty-seven Sections reporting, are (1) 27%; (2) 43%; and (3) 30 per cent. These figures are presented for what they are worth, and admittedly may be in error. I shall be interested to-day to hear the reports of delegates as to how they class their Sections.

Mention has been made before of the work of the Texas Section. I have been particularly impressed with the outstanding work of this Section, particularly in its efforts to set up and maintain a high standard of professional practice among its members. In this work, it is apparently meeting with success.

Of the larger Sections, Los Angeles is probably equally as active as the Texas Section.

The Sacramento, Calif., Section is a relatively small and young organization, yet it is a live Section, maintaining a high interest among its members. These three Sections have been picked out for particular mention, because all three are far removed from the Headquarters of the Society, and are under varying conditions. One is a State-wide organization, a second is a very large Section, and a third is small and young.

I have noted with interest in reading the reports that some Sections seem to consider that a healthy interest of the members cannot be aroused or maintained without "importing" outside speakers. By "importing" I mean paying the expenses of such speakers coming from a considerable distance. I believe that this idea is wrong. I doubt if any one of the ten Sections listed as decidedly active spend any money in bringing in speakers. The seed for healthy growth and interest lies within the Sections themselves.

### Conclusions

The wide diversity of conditions under which the various Local Sections operate, and the consequent wide diversity in actual operations, as brought out through the replies to the Questionnaire emphasize, to my mind the truth of the statements and recommendations of the Committee on Aims and Activities, which I read at the beginning.

The live and healthy Sections, those possessing initiative, should, I believe, be given the full support of the Society in every way possible. Those Sections which are apparently dormant from lack of knowledge of how to

make full use of their opportunities need help, by way of advice, of example, and of possible financial aid. Other Sections which are located in those communities where active and strong engineering societies exist, will probably continue to confine their activities to routine affairs.

It would appear that the very large variation in the activities of the Local Sections is alone a sufficient reason why the Local Sections should not attempt to become a political unit, but should rather confine their activities, in general, to "bringing home" to the individual member the spirit and inspiration of the Society, and to keeping him in his professional relations with his fellow men in his community. Here, indeed, is a large field of endeavor, a field in which the results of even small efforts will be found well worth while.

For the Committee on Local Sections,

HENRY D. DEWELL, *Chairman.*

### Local Sections\*

**Buffalo.**—October 13, 1926. This meeting was arranged in connection with the Engineering Section of the American Public Health Association, which was holding its 55th Annual Meeting in Buffalo, N. Y., October 11 to 14. The general subject under discussion was "The Pollution of the Great Lakes." George H. Ferguson, Sanitary Engineer, Department of Health, Ottawa, Ont., Canada, spoke on "Lake Superior," and Joseph W. Ellms, Consulting Sanitary Engineer, Cleveland, Ohio, discussed "Lake Erie and the Niagara River". Langdon Pearse, Sanitary Engineer, Sanitary District of Chicago, gave an address on "Lake Michigan". Following the meeting the members inspected Buffalo's new Filtration Plant and the new Sewage Disposal Plant at Lackawanna, N. Y. Attendance 65.

**Central Ohio.**—November 18, 1926. This was a noonday luncheon meeting. The following officers were elected: President, E. G. Bradbury; First Vice-President, John C. Prior; Second Vice-President, Alvin B. Tallmadge; and Secretary-Treasurer, V. A. Eberly. Attendance 21.

**Cincinnati.**—November 8, 1926. A regular meeting was held in the new rooms of the Engineers' Club of Cincinnati. G. Carlton Smith, Secretary for Public Safety, Cincinnati, spoke on "Traffic Problems and Regulations in Cincinnati". An extended discussion of the subject of the talk followed the address. Attendance 16.

**Colorado.**—October 29, 1926. After a dinner at which 20 members were present, Mr. Oliver T. Reedy presented data on "Trend of Highway Unit Costs" and on the "pay as we go" highway amendments. Tests of model arch dams will be conducted by the following Committee of the Section, F. R. Dungan, Chairman, H. J. Gilkey, I. E. Houk, and J. L. Savage. The tests will be financed by the U. S. Government Bureau of Reclamation to secure data for the design of the Boulder Canyon Dam.

**Detroit.**—November 10, 1926. This date was chosen by President Davison and Secretary Seabury to visit the Section and the University of Michigan Student Chapter. The meeting with the Student Chapter was held in connection with a luncheon given at the Michigan Union. Professor William C. Hood, presided and in turn called upon President Davison, Dean M. E. Cooley, and Secretary Seabury to address the meeting. Twenty members of the Student Chapter, members of the Engineering Faculty of the University, and members of the Society were present to meet the guests. Attendance 50.

The meeting with the Section was held at the Headquarters of the Detroit Engineering Society and was preceded by a dinner. Mr. W. R. Dunham, Jr., presided and introduced President Davison who discussed the early history of the Society and the Local Sections. Secretary Seabury spoke on the work of the Board of Direction and of the Society. A general discussion followed on the present activities of the Society. Attendance 40.

\* For list of Local Section Officers, Rules, etc., see 1926 Year Book, p. 88.



**Duluth.**—After a luncheon, the business meeting was held. Mr. J. H. Darling gave an interesting description of his travels in Europe during the past summer. Attendance 16.

**Georgia.**—November 12, 1926. Secretary J. H. Johnston who was the accredited delegate to the Conference of Local Sections at the Annual Convention of the Society in Philadelphia, read his report which, on resolution, was adopted. A letter was read from the University of Georgia Student Chapter to the effect that Mr. W. E. Sewell had been elected to receive the prize of Junior membership in the Society which was offered by the Section. A resolution was passed approving Part 2 of *Proceedings* and expressing the hope that it be continued indefinitely. Dr. R. E. Wager, of Emory University, gave an address on education in Georgia and the need for legislation to provide for equal opportunities in educational matters. Attendance 21.

**Iowa.**—November 23, 1926. Annual Meeting. The following officers were elected: President, O. W. Crowley; Vice-President, A. H. Fuller; Secretary-Treasurer, R. B. Kittredge; and Directors, Q. C. Ayres and C. H. Young. Secretary Kittredge presented a report on the Local Sections' Conference at Philadelphia. Director T. Chalkley Hatton spoke on the work of the Board of Direction and Dean C. C. Williams discussed "The Present Urban Railway Situation". After a dinner at the Grant Club there were addresses by Director Hatton on "The First Transcontinental Railroad" and by Professor J. P. Ryan, of Grinnell, on "The Profession and The Community". The attendance at the business meeting was 28, the dinner attendance including 38 members and guests.

**Los Angeles.**—November 12, 1926. A dinner preceded the meeting which was held at the Vista Del Arroya Hotel, Pasadena. Professor Loye H. Miller, of the Department of Biology of the University of California, Southern Branch, gave an interesting talk on "California's Animals of the Past," illustrating his remarks with lantern slides. During and after the dinner enjoyable musical selections were rendered, including songs by Mr. D. C. Mackenzie. Dancing followed. Attendance 184.

**Northeastern.**—November 20, 1926. Director Charles M. Spofford addressed the Section on the activities of the Society and the Board of Direction. He was followed by Professor C. Frank Allen and Mr. Lewis E. Moore who discussed the Code of Practice. President Charles W. Sherman spoke regarding the Local Sections' Conference in Philadelphia at which he represented the Section. Professor Allen also discussed the Conference. President Sherman then gave a talk on his visit to Europe during the past summer which was very much appreciated by his audience. Attendance 31.

**Sacramento.**—October 19, 1926. Thirty-three members and their wives attended the annual Ladies' Day Luncheon at the Hotel Sacramento. Following the established custom of having as speaker the wife of a member of the Section, Mrs. Robert M. Morton spoke on "Play in Relation to the Engineer". Through the courtesy of E. I. du Pont de Nemours and Com-

pany, a motion picture entitled "The Story of Dynamite" was shown. The ladies spent the afternoon at bridge.

October 26, 1926. R. H. Stalnaker, Equipment Engineer for the California Highway Commission, described the work of his Department. Twelve years ago the equipment owned by the Commission consisted of fifteen automobiles, thirty line wagons, and a few miscellaneous articles. To-day it is valued at more than \$6 000 000, and includes 1 200 motor vehicles, 255 tractors, 305 graders, 22 steam and gas shovels, and 12 crushing and screening plants. Attendance 25.

November 9, 1926. At a joint meeting with the Sacramento Chapter, American Association of Engineers, W. S. Turner, Division Engineer of the Southern Pacific Company, spoke on "Safety", describing the many precautions taken for the safe operation of trains which has won for the Southern Pacific the best record of any American railroad in the safe handling of trains. Attendance 40.

November 16, 1926. Director Henry D. Dewell reported on the recent Conference of Local Section Representatives at Philadelphia. Attendance 30.

### Student Chapters\*

**State University of Iowa.**—September 29, 1926. The organization meeting was called by Professor B. J. Lambert who gave a short talk on the ideas, principles, and plans of the Chapter. The following officers were elected: H. A. Spafford, President; W. W. Towne, Vice-President; C. B. Anderson, Recording Secretary and Treasurer; X. P. Boyles, Corresponding Secretary. Dean C. C. Williams gave an interesting and instructive talk on "The Society and Its Student Branches," enumerating the privileges and benefits gained by its members. At each weekly meeting of the Chapter it is planned that two men will give the main addresses which will be constructively criticized by persons who are prepared on the subject. Once a month a general meeting of the Civil, Mechanical, and Electrical Societies is held for which a prominent engineer is secured as speaker.

October 6, 1926. Mr. Carl Seashore gave an illustrated talk on "Reinforced Concrete Construction" and was followed by Mr. W. W. Towne who spoke on "The Self-Anchored Suspension Bridge," illustrating his talk with lantern slides.

October 13, 1926. Mr. E. J. Beatty gave a descriptive talk on "Macadam Pavements", which was criticized by Messrs. Bell and Benesh. Mr. X. P. Boyles spoke on the "Construction and Benefits of Reinforced Concrete Pavements."

\* For list of Student Chapters, Officers, etc., see 1926 Year Book, p. 94.

## Engineering Societies Library

The services of the Engineering Societies Library are available to all members who wish searches, copies, translations, etc., or advice on technical literature. A collection of modern books is also available for loan to members in North America, at moderate rentals. Correspondence should be addressed to the Director, Engineering Societies Library, 29 West 39th Street, New York, N. Y., who will gladly give information concerning the charges for the various kinds of work. A more comprehensive statement in regard to this matter will be found on pages 110 and 111 of the Year Book for 1926.

### Book Notices\*

(November 1 to November 30, 1926)

**Building Mechanics.** By W. G. Sheppard. Lond. and N. Y., Oxford University Press, 1926. 264 pp., diagrams, tab., 9 x 6 in., cloth. \$4.00. (Gift of American Branch.)

This elementary textbook on the mechanics of structures intended for students below college rank is of English origin and meets the requirements of junior technical schools of building and structural engineering.

**Cement, Concrete and Bricks.** By Alfred B. Searle. Second Edition. (Outlines of Industrial Chemistry.) N. Y., D. Van Nostrand Co., 1926. 441 pp., illus., diagrams, 9 x 6 in., cloth. \$6.00.

The raw materials for cement, methods of manufacture, the chemical and physical changes that occur during manufacture and setting, and the methods of testing are described. Similarly, the components of concrete, its preparation and properties, and its use as reinforced concrete are explained, as well as the manufacture and properties of bricks.

**Chemische Technologie der Leichtmetalle und Ihrer Legierungen.** By Friedrich Regelsberger. Lpz., Otto Spamer, 1926. 385 pp., illus., ports., 10 x 7 in., paper. 26, r.m.; bound, 29, r.m.

This monograph is a convenient summary of present knowledge of the light metals, based on a thorough expert examination of the literature to the end of 1924. The author discusses their occurrence in nature, history, physical and chemical properties, alloys and compounds, metallurgy, preparation for use, and uses. The metals included are lithium, potassium, sodium, rubidium, calcium, magnesium, caesium, beryllium, strontium, aluminium, and barium.

**Concrete Designers' Manual.** By George A. Hool and Charles S. Whitney. Second Edition. N. Y., McGraw-Hill Bk. Co., 1926. 329 pp., diagrams, tab., 9 x 6 in., fabrikoid. \$4.00.

This collection of tables and diagrams intended to facilitate rapid designing of structures, conforms to the recommendations of the Joint Committee, the American Concrete Institute, and the building codes of New York and Chicago. The new edition has been entirely revised with added sections on flat slabs, shear reinforcement, and symmetrical arches.

**The Divining-Rod.** By Sir William Barrett and Theodore Besterman. Lond., Methuen & Co., 1926. 336 pp., illus., 9 x 6 in., cloth. 18 s.

This is a very interesting book on the art of dousing. The authors have examined the literature, have collected and examined critically a substantial number of contemporary cases, and have carried out experiments designed to test the claims made on behalf of "water divining". As a result, they conclude that dousing is not mere superstition but that certain individuals have a subconscious supernormal faculty that enables them to discover the location of underground water, ores, metals, and other substances.

**Engineering Problems.** By William G. Raymond, Sherman M. Woodward, and Irving H. Prageman. N. Y., McGraw-Hill Book Co., 1926. 47 pp., diagrams, tab., 9 x 6 in., cloth. \$1.00.

\* The statements made in these notices are taken from the books themselves and this Society is not responsible for them. Unless otherwise specified, the books in this list have been donated by publishers.

This is a text for a review and orientation course for sophomore students at the University of Iowa, covering the more important fundamental facts of physics and chemistry. Every-day problems are used to show the sort of work comprehended in actual engineering and to illustrate the method of attack.

**Erddruck, Erdwiderstand und Tragfähigkeit des Baugrundes.** By H. Krey. Berlin, Wilhelm Ernst & Sohn, 1926. 296 pp., illus., diagrams, tab., 10 x 7 in., paper. 21,60 mk.

This treatise on earth pressures, earth resistance, and supporting power, designed primarily to assist practising engineers in the solution of the problems that arise in the course of their work gives the theory and basic principles as well as practical methods of calculation, including a series of tables, by which earth pressures may be calculated rapidly with sufficient accuracy for ordinary construction.

**Fortschritte der Abwasserreinigung.** By Karl Imhoff. Second Edition. Berlin, Carl Heymanns Verlag, 1926. 136 pp., illus., 9 x 6 in., boards. 5, r.m.

This book gives to those familiar with the subject a concise survey of developments in the theory and practice of sewage purification since 1914.

**Geology in Its Relation to Landscape.** By Junius Henderson. Boston, Stratford Co., 1925. 152 pp., illus., 9 x 6 in., cloth. \$2.50.

The author writes for laymen curious as to the way in which the topographic features of the surface of the earth have been formed by geologic agents. Many photographs illustrate the text.

**Hydrographic Office.** By Gustavus A. Weber. (Inst. for Govt. Research. Service Monographs, No. 42.) Balt., Johns Hopkins Press, 1926. 112 pp., 9 x 6 in., cloth. \$1.00.

This description of the U. S. Hydrographic Office traces its history, explains its functions, describes its organization and plant for fulfilling them, and gives information on the laws that govern it and on its cost.

**Introduction to Reinforced Concrete Design.** By Hale Sutherland and Walter W. Clifford. N. Y., John Wiley & Sons, 1926. 412 pp., illus., diagrams, tab., 9 x 6 in., cloth. \$4.00.

This text aims to give the fundamentals of reinforced concrete design as simply and completely as possible. The authors develop the theory by the method of the transformed section, illustrating its application by computations of walls for buildings, slab and beam bridges, floors, columns and footings for buildings, and the hingeless arch.

**Nieten und Schweissen der Dampfkessel.** By E. Höhn. Berlin, Julius Springer, 1925. 146 pp., diagrams, tab., 9 x 6 in., paper. 8, r.m.

This brochure gives a detailed discussion of the extensive tests of riveted and welded joints carried out at the instigation of the Swiss Association of Boiler Owners during 1924 and 1925.

**Portland Cement.** By Richard K. Meade. Third Edition. Easton, Pa., Chemical Publ. Co., 1926. 707 pp., illus., diagrams, tab., 9 x 6 in., cloth. \$10.00.

This new edition, 40% larger than the preceding one, aims to give a practical account of cement-making as carried on to-day, with a description of the approved methods for analyzing the materials and products of the cement mill and for testing the physical properties of cement.

**Solving Sewage Problems.** By George W. Fuller and James R. McClintock. N. Y., McGraw-Hill Book Co., 1926. 548 pp., illus., diagrams, tab., 9 x 6 in., cloth. \$6.00

This work aims to set forth concisely the fundamental principles of sewage disposal. Recent developments in theory and practice are stressed. Particular consideration is given to natural purification of streams, basic design data, plain sedimentation tanks, sludge digestion processes, separate sludge digestion tanks, collection and utilization of gas, screens, trickling filters, the activated sludge process, and industrial wastes.

### Additions to the Reading Room

**Practical Structural Design in Timber, Steel and Concrete.** By Ernest McCullough. Third Edition, Revised and Enlarged. N. Y., Scientific Book Corporation, 1926. 416 pp., 8½ x 5½ in., cloth. \$4.00.

The sub-title of this work explains its purpose, as follows: "A text and reference work for engineers, architects, builders, draftsmen, and technical schools; especially adapted to the needs of self-tutored men." Considerable new material has been added to this edition, including a concise yet adequate treatment of reinforced concrete.

Abbrevi

Am. C.

A. I. E.

A. R. E.

A. S. T.

Am. Soc.

Am. Soc.

Am. W.

Am. Wo.

Ann. P.

Ann. T.

Assoc.

Bost. So.

Can. Eng.

Cornell C.

Dock &amp;

Eng. &amp;

Eng. &amp;

Eng. Ins.

Eng. N.

Engrs. S.

Engrs. &amp;

Gen. Civ.

Gesund. I.

Inst. C.

Inst. Mun.

Int. Ry.

Land. An.

Mech. En.

Mil. Eng.

Min. &amp; M.

Mun. &amp; C.

N. E. W.

N. Y. R.

Oest. Ing.

Power . .

Rev. Gen.

Ry. Age

Ry. Eng.

Ry. Rev.

Schw. Ba.

Sci. Am.

Soc. Ing.

Tech. Ger.

Ver. deu.

West. Ry.

Zeit. Bau.

Z. d. Bau.

\* Y



## Current Civil Engineering Literature

### Key to Abbreviated References to Publications Indexed\*

Abbreviated References.	Publication.	Place.
Am. C. Inst.....	American Concrete Institute, Proceedings (Y.)	Detroit
A. I. E. E.....	American Institute of Electrical Engineers Journal (M.)	New York
A. R. E. A.....	American Railway Engineering Association, Proceedings (Y.)	Chicago
A. S. T. M.....	American Society for Testing Materials, Proceedings (Y.)	Philadelphia
Am. Soc. C. E.....	American Society of Civil Engineers, Proceedings (M.)	New York
Am. Soc. Mun. Impvts..	American Society for Municipal Improvements, Proceedings (Y.)	New York
Am. W. W. Assoc.....	American Water Works Association, Journal (Bi-M.)	Baltimore
Am. Wood Pres. Assoc..	American Wood Preservers Association, Proceedings (Y.)	Chicago
Ann. P. et C.....	Annales des Ponts et Chaussées (Bi-M.)	Paris
Ann. T. P. Belg.....	Annales des Travaux Publics de Belgique (Bi-M.)	Brussels
Assoc. Ing. Gand.....	Annales de l'Association des Ingénieurs sortis des Ecoles Spéciales de Gand (Q.)	Ghent
Bost. Soc. C. E.....	Boston Society of Civil Engineers, Journal (M.)	Boston
Can. Engr.....	Canadian Engineer (W.)	Toronto
Cornell C. E.....	Cornell Civil Engineer (M.)	Ithaca
Dock & Harbour.....	Dock and Harbour Authority (M.)	London
Eng. ....	Engineering (W.)	London
Eng. & Contr.....	Engineering and Contracting (W.)	Chicago
Eng. Inst. Can.....	Engineering Institute of Canada, Journal (M.)	Montreal
Eng. N. R.....	Engineering News-Record (W.)	New York
Engrs. Soc. W. Pa.....	Engineers' Society of Western Pennsylvania, Journal (M.)	Pittsburgh
Engr.....	Engineer (W.)	London
Engrs. & Eng.....	Engineers and Engineering, Engineers' Club of Philadelphia (M.)	Philadelphia
Gen. Civ.....	Le Génie Civil (W.)	Paris
Gesund. Ing.....	Gesundheits Ingenieur (W.)	Munich
Inst. C. E.....	Institution of Civil Engineers Minutes of Proceedings (Q.)	London
Inst. Mun. & Co. Engrs..	Institution of Municipal and County Engineers, Journal (W.)	London
Int. Ry. Cong. Assoc...	International Railway Congress Association, Bulletin (M.)	Brussels
Land. Arch.....	Landscape Architecture (M.)	Harrisburg
Mech. Eng.....	Mechanical Engineering (M.) Journal of the American Society of Mechanical Engineers	New York
Mil. Engr.....	Military Engineer (Bi-M.)	Washington
Min. & Metal.....	Mining and Metallurgy (M.) American Institute of Mining Engineers	New York
Mun. & Co. Eng.....	Municipal and County Engineering (M.)	Indianapolis
N. E. W. W. Assoc.....	New England Water Works Association, Journal (Q.)	Boston
N. Y. R. R. Club.....	New York Railroad Club, Proceedings (M.)	Brooklyn
Oest. Ing. Arch. Ver...	Oesterreichischer Ingenieur und Architekten Verein, Zeitschrift (F.)	Vienna
Power .....	Power (W.)	New York
Rev. Gen.....	Revue Générale des Chemins de Fer (M.)	Paris
Ry. Age .....	Railway Age (W.)	New York
Ry. Eng. & Main.....	Railway Engineering and Maintenance (M.)	Chicago
Ry. Rev.....	Railway Review (W.)	Chicago
Schw. Bauz.....	Schweizerische Bauzeitung (W.)	Zurich
Sci. Am.....	Scientific American (M.)	New York
Soc. Ing. Civ. Fr.....	Société des Ingénieurs Civils de France, Mémoires et Comptes Rendus (Q.)	Paris
Tech. Gemein.....	Technisches Gemeindeblatt (F.)	Berlin
Ver. deu. Ing.....	Verein deutscher Ingenieure, Zeitschrift (W.)	Berlin
West. Ry. Club.....	Western Railway Club, Proceedings (M.)	Chicago
West. Soc. Engrs.....	Western Society of Engineers, Journal (M.)	Chicago
Zeit. Bau.....	Zeitschrift für Bauwesen (Q.)	Berlin
Z. d. Bauer.....	Zentralblatt der Bauverwaltung (W.)	Berlin

\* Y = Yearly; Q = Quarterly; M = Monthly; F = Fortnightly; W = Weekly.



## A. Applied Sciences

### a. Processes of Calculation

#### 2. Graphical and Nomographical Processes

Straight Line Plotting of Skew Frequency Data.\* Discussion: H. Alden Foster and A. Streiff. Am. Soc. C. E. Nov., '26.

#### 3. Stresses and Strains

Live-Loads for Floors Supporting Printing Presses.\* E. L. Verveer. Eng. N. R. Nov. 11, '26.

## B. Applied Mechanics

### a. Mechanics of Solids (Strength of Materials)

#### 2. Elastic Solids

Progress Report of the Special Committee on Steel Column Research. Discussion: E. H. Salmon, Esq. Am. Soc. C. E. Nov., '26.

#### 6. Heterogeneous Solids (Reinforced Materials)

Distribution of Reinforcing Steel in Concrete Beams and Slabs.\* James B. Newman, E. F. Rockwood, C. A. Willson, F. Theodore Mavis and Jacob Feld. Am. Soc. C. E. Nov., '26.  
Calcul Simplifié et Pratique de la Flexion Simple et Composée des Pièces en Béton Armé.\* (Simplified and Practical Calculation of Simple and Compound Flexure of Reinforced Concrete Members.) A. Rogoff. Gen. Civ. Oct. 2, '26.

### b. Hydraulics

#### 1. Processes of Measurement

Venturi Tube Characteristics.\* J. W. Ledoux. Am. Soc. C. E. Nov., '26.  
Hydraulische Vorlesungsversuchsrinne.\* (Experimental Channels for Hydraulic Lectures.) Ludin. Oest. Ing. Arch. Ver. Oct. 15, '26.

#### 2. Physical Hydraulics

Fluid Flow in Pipes of Annular Cross-Section.\* D. H. Atherton. Mech. Eng. Nov., '26.

#### 3. Industrial Hydraulics

Some Observations on European Water-Power Practice.\* Albert J. R. Houston. Bost. Soc. C. E. Oct., '26.

Norman Dam Hydro Power Development.\* S. T. McCavour. Can. Engr. Oct. 26, '26.

Balch High-Head Power Project Well Under Way.\* Eng. N. R. Nov. 18, '26.

L'Usine Hydro-Electrique de Chancy-Pougny, sur le Rhône, et la Transmission à 120 000 Volts de la Société l'Energie Electrique Rhône et Jura.\* (The Chancy-Pougny Hydro-Electric Plant on the Rhône, and the 120 000 Volt Transmission Line of the Société l'Energie Electrique Rhône et Jura.) M. Barrère. Gen. Civ. Oct. 23, '26.

Internationale Ausstellung für Binnenschifffahrt und Wasserkraftnutzung in Basel.\* (International Exhibition for Inland Navigation and Water Power Utilization in Basle.) Seifert. Ver. deu. Ing. Oct. 2, '26.

Die Wirbelstrahlmaschine.\* (The Whirling Jet Turbine.) A. Gratzl. Oest. Ing. Arch. Ver. Oct. 29, '26.

### c. Pneumatics

#### 2. Physical Pneumatics

Tropical Hurricane on October 20 Hits Western Cuba.\* I. W. McConnell and A. J. Hammond. Eng. N. R. Nov. 4, '26.

Hurricane Effects on Buildings at Hollywood, Florida. George M. Beerbower. Eng. N. R. Nov. 4, '26.

Maryland Tornado Wrecks Well-Built Country Schoolhouse.\* Nolan D. Mitchell. Eng. N. R. Nov. 18, '26.

Bermuda Damaged by Tropical Hurricane. F. E. Barnes. Eng. N. R. Nov. 18, '26.

Zur Theorie des Wärmeüberganges von Flüssigkeiten oder Gasen an feste Wände.\* (On the Theory of Heat Transmission from Liquids or Gases to Solid Walls.) A. Stodola. Schw. Bauz. Oct. 30, '26.

#### 3. Industrial Pneumatics

The Use of Compressed Air in Bridge and Building Work. (Report of Comm. Am. Ry. Bridge and Bldg. Assoc.) Ry. Eng. & Main. Nov., '26.

Les Compresseurs d'Air à Pistons.\* (Piston Air Compressors.) Gen. Civ. Oct. 16, '26.

## C. Materials of Construction and General Processes

### a. Lime, Cement, Mortar, Concrete, Brick, Bitumin, Timber, etc.

Hydrated Lime as an Admixture in Concrete.\* Matt M. Bird. Cornell C. E. Oct., '26.

Measurement of Sands.\* J. S. Elwell. Eng. & Contr. (Buildings, etc.) Oct., '26.

Corrosion of Concrete.\* Discussion: Charles A. Newhall, Troy Carmichael, Dalton G. Millar, F. R. McMillan, and Nathan C. Johnson. Am. Soc. C. E. Nov., '26.

Producing Concrete of Uniform Quality. T. P. Watson. Discussion: Am. Soc. C. E. Nov., '26.

Water-Ratio Specification for Concrete. Discussion: C. R. F. Coutlee and A. S. Woodie, Jr. Am. Soc. C. E. Nov., '26.

Methods of Repairing Disintegrated or Poor Concrete.\* (Report of Comm. Am. Ry. Bridge & Bldg. Assoc.) Ry. Eng. & Main. Nov., '26.

L'Action du Chlorure de Calcium sur les Ciments.\* (Action of Calcium Chloride on Cements.) Gen. Civ. Oct. 2, '26.

Baukontrolle des Beton.\* (Field Control of Concrete.) Kleinlogel. Schw. Bauz. Oct. 23, '26.

### b. Metals

Neuere Schweissverfahren und Gestaltung.\* (Recent Welding Methods and Shaping.) W. Strehlow. Ver. deu. Ing. Oct. 2, '26.

**c. Preservation and Use of Materials, Painting, Waterproofing**

- The Framing of Bridge Timbers before Treatment. Earl Stimson. (Paper read before Am. Ry. Bridge & Bldg. Assoc.) Ry. Eng. & Main. Nov., '26.  
 The Use of Creosoted Timber. (Report of Comm. Am. Ry. Bridge & Bldg. Assoc.) Ry. Eng. & Main. Nov., '26.  
 The Application of Protective Coatings to Structural Steel. (Report of Comm. Am. Ry. Bridge & Bldg. Assoc.) Ry. Eng. & Main. Nov., '26.

**e. Earthwork. Cubage. Excavating Machinery**

- Excavation in Water Bearing Sand.\* R. C. Wilson. (From *Turner Constructor*.) Eng. & Contr. (W. W.) Nov., '26.

**f. Rock Excavation, Mining, Rock Removal**

- Abstracts of Institute Papers. Min. & Metal. Nov., '26.  
 Le Chevalement en Béton Armé du Puits de Maurits aux Houillères de l'Etat Hollandais.\* (Reinforced Headframe of the Maurits Shaft in the Collieries of Holland.) Ch. Dantin. Gen. Civ. Oct. 30, '26.

**g. Execution of Works, Specifications****2. Of Concrete**

- Note sur les Constatations Faites sur le Ciment Fondu Employé en Massifs Epais.\* (Note on Observations Made on Quick Setting Cement Used in Thick Masses.) Quinquet. Rev. Gen. Oct., '26.

**4. Of Metal**

- The Mechanical Properties of Steel.\* William Ernest Dalby. Inst. C. E., Vol. 221, 1925-'26, Pt. 1.

- Tests of Welded Trusses and a New Truss Joint.\* H. H. Moss. Eng. N. R. Oct. 28, '26.  
 Possible Economies in Steel Construction.\* C. R. Young. (Paper read before Am. Inst. Steel Constr.) Can. Engr. Nov. 9, '26.

**5. Of Reinforced Concrete**

- Swimming Pool and Bath House, London.\* E. V. Buchanan. Can. Engr. Oct. 26, '26.  
 Open-Air Swimming Bath, Highfields Park, Nottingham.\* Inst. Mun. & Co. Engrs. Nov. 9, '26.

- Wirtschaftlicher Vergleich zwischen Eisenbeton und Eisenbauten.\* (Economic Comparison between Reinforced Concrete and Iron Construction.) K. Schaechterle. Schw. Bauz. Oct. 2, '26.

**x. Miscellaneous**

- Relative Merits of Different Kinds of Roofing. (Report of Comm. Am. Ry. Bridge & Bldg.) Nov., '26.

**h. Foundation, Bridge Piers, and Abutments**

- High-Level Bridge, Newcastle-Upon-Tyne: Underpinning and Repair of Foundations of River Piers.\* Cyril Francis Bengough. Inst. C. E. Vol. 221, 1925-'26, Pt. 1.  
 Montreal Harbor Bridge Sub-Structure.\* P. L. Pratley. Can. Engr. Nov. 2, '26.  
 Open Foundation Plant and Methods on Manhattan Island.\* Engr. N. R. Nov. 18, '26.

**j. Piles and Pile-Driving**

- Note sur l'Emploi des Palplanches Metalliques. (Note on the Use of Metal Sheet Piling.) Aubert. Ann. P. et C. July, '26.  
 Pfahlrostberechnung.\* (Pile Grill Calculation.) Joachim Schultze. Z. D. Bauver. Oct. 20, '26.

**k. Tunnels and Tunneling-Shields**

- Novel Design and Construction Features of Estuary Tunnel at Oakland.\* Eng. N. R. Oct. 28, '26.  
 Work on Moffat Tunnel Forging Ahead.\* Clifford A. Betts. Ry. Age Nov. 6, '26.

**D. Highways****c. Construction**

- Pavement Reconstruction Studies in California. C. S. Pope Mun. & Co. Eng. Oct., '26.  
 Experimental Road in Virginia. C. A. Hogentogler. Mun. & Co. Eng. Oct., '26.  
 Thin Brick Pavements Studied. L. W. Teller. (From *Public Roads*.) Mun. & Co. Eng. Oct., '26.  
 Gravel Roads Around Ottawa. Alan K. Hay. Can. Engr. Oct. 26, '26.  
 European Concrete Road Practices Strange to America.\* (From reports read before Int. Assoc. of Road Congresses.) Eng. N. R. Oct. 28, '26.  
 Bituminous Treatment of Gravel Roads. R. M. Smith. (Paper read before Can. Good Roads Assoc.) Can. Engr. Nov., '26.  
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- The Maintenance of Gravel Roads. W. E. Rosenwald. (Paper read before Can. Good Roads Assoc.) Eng. & Contr. (R. & S.) Nov., '26.  
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#### h. Vehicles, Automobiles, Traffic

- Using Pavement Markings to Direct Traffic. Earl J. Reeder. Mun. & Co. Eng. Oct., '26.  
 Commercial Use of Canadian Highways. J. P. Bickell. (Paper read before Can. Good Roads Assoc.) Can. Engr. Oct. 26, '26.  
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- Le Ve Congres International de la Route (Milan, 6-13 septembre 1926.) (The 5th International Road Congress (Milan, September 6-13, 1926.)) L. Biette. Gen. Civ. Oct. 30, '26.

### E. Bridges, Viaducts, and Arches

#### b. Iron and Steel Bridges and Viaducts

- Highway Bridge Design in Saskatchewan.\* H. R. Mackenzie. Can. Engr. Oct. 26, '26.  
 Reinforcing a Steel Viaduct: Northern Pacific Ry.\* Eng. N. R. Nov. 11, '26.  
 Der Umbau der Eisenbahnbrücken über die Spree am Bahnhof Bellevue der Berliner Stadtbahn.\* (Rebuilding the Railway Bridges Over the Spree at the Bellevue Station of the Berlin City Railway.) J. Kuhnke. Zeit. Bau. Pt. 6, '26.  
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 Die Delawarebrücke in Philadelphia.\* (The Delaware Bridge in Philadelphia.) Rudolf Bernhard. Ver. deu. Ing. Serial beginning Oct. 23, '26.

#### d. Concrete and Reinforced Concrete Bridges and Viaducts

- The Reduction of Deformation Stresses in Fixed Concrete Arches.\* J. F. Brett. West. Soc. Engrs. Sept., '26.  
 Highway Bridge Design in Saskatchewan.\* H. R. Mackenzie. Can. Engr. Oct. 26, '26.  
 Engineering and Architectural Design of a Long Concrete Bridge.\* W. E. King and Roy Childs Jones. Eng. N. R. Nov. 4, '26.  
 Some Lessons Learned in Building Long Concrete Bridge.\* John F. Greene. Eng. N. R. Nov. 11, '26.  
 Sur les Applications de la Théorie de l'Elasticité au Calcul des Voûtes Circulaires non Pesantes.\* (On the Applications of the Theory of Elasticity to the Calculation of Circular Arches without Weight.) A. Haegelen. Ann. P. et C. July, '26.  
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 Etude Elastique des Voutes Epaissses et à Forte Courbure.\* (Elastic Study of Thick Arches with Great Curvature.) Caquot. Ann. P. et C. July, '26.  
 Nouveau Procédé de Calcul de l'Arc à Treillis à Membres Paraboliques et Muni d'un Tirant.\* (New Method of Calculation of the Lattice Arch with Parabolic Members and Supplied with a Tie-Beam.) Leon Legens. Gen. Civ. Oct. 23, '26.  
 Strassenbrücke über die Mur bei Puntigam.\* (Highway Bridge Over the Mur at Puntigam.) Viktor Mautner. Oest. Ing. Arch. Ver. Oct. 15, '26.

#### h. Computation, Tests, etc.

- Quantities of Materials and Costs per Square Foot of Floor for Highway and Electric-Railway Long-Span Suspension Bridges.\* J. A. L. Waddell. Am. Soc. C. E. Nov., '26.  
 Protecting Structures Over Tracks from Locomotives Gases. (Report of Comm. Am. Ry. Bridge & Bldg. Assoc.) Ry. Eng. & Main. Nov., '26.

#### x. Miscellaneous

### F. Inland Waters, Waterways

#### b. Canals (General Articles)

- The New York State Barge Canal and Its Operation.\* Discussion: Frederic H. Fay. Am. Soc. C. E. Nov., '26.  
 The Hammarby Canal at Stockholm.\* Dock & Harbour Nov., '26.

**c. Regulation of Waterways—Volume of Discharge, Freshets, Floods, Soundings**

- Relation of Depth to Curvature of Channels.\* Discussion: P. N. Fawcett and Henry Clay Ripley. *Am. Soc. C. E. Nov.*, '26.  
Stream Regulation with Reference to Irrigation and Power.\* Discussion: J. D. Galloway. *Am. Soc. C. E. Nov.*, '26.  
Straightening the Chicago River Involves Many Problems.\* *Eng. N. R. Nov. 4*, '26.

**d. Diverting Dams, Locks, Lifts, Elevators, Inclined Planes**

- Die Grundwassersenkung beim Bau der Doppelschleuse in Wesermünde-Geestemünde.\* (The Lowering of the Ground Water During the Construction of the Double Lock in Wesermünde-Geestemünde.) Arp and Dettmers. *Zeit. Bau. Serial beginning Pt. 6*, '26.

**g. Consolidation of Banks, Leakage, etc.**

- Angular Submerged Tree Planting.\* *Can. Engr. Nov.*, '26.

**i. Traction, Haulage, Towing, Mechanical Tractors**

- Le Halage Electrique Système Cheneau. (Cheneau System of Electric Haulage.) A. Byls and A. Serruys. *Ann. T. P. Belg. Oct.*, '26.

**j. River and Lake Ports, Equipment**

- Trafford Wharf Reconstruction at the Manchester Docks.\* Henry Ashman Reed. *Inst. C. E., Vol. 221, 1925-'26, Pt. 1*.

**k. Utilization of Inland Waterways, Freight, Capacity**

- Internationale Ausstellung für Binnenschifffahrt und Wasserkraftnutzung in Basel.\* (International Exhibition for Inland Navigation and Water Power Utilization in Basle.) Seifert. *Ver. deu. Ing. Oct. 2*, '26.

**G. Maritime Works****a. Behaviour of Movements of the Ocean. Winds. Waves. Tides. Currents**

- Der jährliche Gang des Wasserstandes an der deutschen Ostsee- und Nordseeküste.\* (The Annual Variation of the Water Level on the German Baltic and North Sea Coasts.) Otto Meissner. *Z. d. Bauver. Sept. 29*, '26.

**c. Vessels and Maritime Navigation, Lighthouses, Buoys, Various Signals**

- The Rotor Ship Barbara.\* *Engr. Oct. 15*, '26.

**g. Dredges and Dredging. Force Pumps. Reflecting and Removing Wrecks. Ice-Breakers**

- Engineering Features in Breaking the Allegheny Ice Gorge.\* Howard T. Barnes. *Eng. Inst. Can. Nov.*, '26.

**h. Wharves, Mooring Buoys, Harbor Equipment**

- Canadian Pacific Builds New Pier at Vancouver, B. C.\* *Ry. Age Nov. 20*, '26.

**i. Harbors (General Articles)**

- The Port of Leningrad and Its Enlargement Scheme.\* V. E. Laknisky. *Dock & Harbour. Nov.*, '26.  
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**j. Dockyard Machinery and Shipyards, Dry Docks**

- Construction of the New Entrance to Tranmere Dock. Percy Walter Bertlin. *Inst. C. E. Vol. 221, 1925-'26, Pt. 1*.  
A Large Coal-Shipping Machine or Car Dumper.\* *Engr. Oct. 29*, '26; *Eng. N. R. Oct. 28*, '26.  
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Caissons for the Canadian Government Dry Dock at Esquimalt, B. C.\* *Eng. Nov. 12*, '26.  
Coal-Handling Plant at the Gas Light and Coke Company's Beckton Works.\* *Eng. Nov. 12*, '26.

**H. Railroads. Street and Interurban Railways. Automobiles. Aeronautics****a. Railroads****1. General Articles**

- How the Railway Lines of Cuba Are Maintained.\* Ben B. Shaw. *Ry. Eng. & Main. Nov.*, '26.  
L'Action des Chemins de Fer sur la Conduite des Armées et la Durée des Guerres. (The Action of the Railroads on the Transportation of Armies and the Duration of Wars.) Marcel Peschaud. *Rev. Gen. Oct.*, '26.

**3. Roadbed (Grading Construction Work)**

- S. P. Puts Natron Cutoff in Service.\* *Ry. Rev. Nov. 6*, '26.

**4. Track**

- Etchings Show Hair Cracks in Steel Rails.\* J. H. Whiteley. *Ry. Rev. Oct. 30*, '26.  
What is Being Done in the Way of Track Maintenance in Winter.\* *Ry. Eng. & Main. Nov.*, '26.  
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**5. Signals and Safety Apparatus**

- Union Pacific Uses Train Control Successfully on 225 Miles.\* Ry. Age Oct. 23, '26.  
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**6. Rolling Stock**

- Baldwin Builds Three Cylinder Locomotives.\* Ry. Rev. Oct. 16, '26.  
 Southern Pacific Mountain Type Locomotive.\* Ry. Rev. Oct. 30, '26.  
 St. Paul Places Order for Roller Bearing Equipment.\* L. K. Silcox. Ry. Age Oct. 30, '26.  
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 Canadian National Builds Two Mikado Locomotives.\* Ry. Age Nov. 13, '26.  
 Mountain Type Locomotives for the Pennsylvania.\* Ry. Age Nov. 20, '26.  
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**7. Use of Electricity**

- Electrification Progresses in Japan.\* F. A. Alben and D. M. Palmer. Ry. Rev. Oct. 16, '26.

**8. Stations, Terminals, Engine Houses, Shops**

- Atlantic Coast Line Finds Profits in Reclaiming Materials.\* Ry. Age Oct. 23, '26.  
 New York Central Plans Elaborate Station for Buffalo, N. Y.\* Ry. Age Oct. 30, '26.  
 Canadian Pacific Builds New Pier at Vancouver, B. C.\* Ry. Age Nov. 30, '26.

**e. Automobiles****x. Miscellaneous**

- Le XXe Salon de L'Automobile et du Cycle. Vehicules de Tourisme (Paris, 7-17 octobre 1926).\* (The 20th Automobile and Cycle Salon. Touring Vehicles (Paris, October 7-17, 1926).) G. Delanghe. Gen. Civ. Serial beginning Oct. 16, '26.

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- Civil Aviation in the United States.\* Archibald Black. Mech. Eng. Nov., '26.  
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**3. Aeroplanes**

- Engineering a New Type of Airplane. G. E. Brower. Cornell C. E. Oct., '26.

**I. Municipal Water-Works. Agricultural Engineering. Irrigation****a. General Articles**

- Pressure-Boosting Station for the Waterworks of the City of Monte Video.\* Arthur Honeysett. Inst. C. E. Vol. 221, 1925-'26, Pt. 1.  
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**b. Hydrology, Water Resources**

- Die Versickerung der atmosphärischen Niederschläge und ihr Einfluss auf die Wasserführung der Quellen.\* (The Percolation of Atmospheric Precipitation and Its Influence on the Water Supply of Springs.) Chr. Mezger. Gesund. Ing. Oct. 9, '26.  
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**c. Dams and Reservoirs**

- Coolidge Dam of San Carlos Irrigation Project.\* C. R. Olberg. Eng. & Contr. (Buildings, etc.) Oct., '26.  
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- The Successful Sanitary Water Survey. Isador W. Mendelsohn. (From Nation's Health.) Mun. & Co. Eng. Oct., '26.  
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 Responsibility of Municipalities, Water Companies and Individuals for Water-Borne Illness.\* Isaac D. Rawlings and Harry F. Ferguson. Am. W. W. Assoc. Oct., '26.  
 A Cemented Gravel Slab—Vitriified Clay Pipe Distribution System for Rapid Sand Filters.\* Harry N. Jenks. Am. W. W. Assoc. Nov., '26.  
 The Economical Capacity of Filters and Filtered Water Storage.\* Arthur B. Morrill. Am. W. W. Assoc. Nov., '26.  
 Automatic Hydrogen-Ion Control of Boiler Feed Water.\* Henry C. Parker and Willard N. Greer. Am. W. W. Assoc. Nov., '26.



- Earlier Determination of Bacterium Colon.\* C. J. Lauter. Am. W. W. Assoc. Nov., '26.  
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 F. R. Georgia and Rita Morales. Am. W. W. Assoc. Nov., '26.  
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 New Water Softening Plant for Hinsdale, Illinois.\* Frank D. Danielson. Eng. N. R. Nov. 11, '26.  
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 Die Zusammenhänge der Belebungsverfahren in der Abwasserreinigung.\* (The Sequence of Activation Methods in Sewage Purification.) Karl Imhoff. Gesund. Ing. Oct. 23, '26.

#### e. Distribution of Water

- Experience with Cement-Lined Cast Iron Pipe.\* J. E. Gibson. Am. W. W. Assoc. Oct., '26.  
 Universal Metering of Water Supplies.\* John Ericson. Am. W. W. Assoc. Oct., '26.  
 The Thin Plate Orifice for the Measurement of Water.\* G. D. Conlee. Am. W. W. Assoc. Nov., '26.  
 A Comparison of Service Pipe Material. O. B. Mueller. Am. W. W. Assoc. Nov., '26.  
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 Standard Lengths of Cast Iron Pipe Cast Horizontally. J. R. McWane. Am. W. W. Assoc. Nov., '26.  
 The Use of Standpipes and Elevated Tanks to Reinforce the Distribution System During Periods of High Demand.\* Nicholas S. Hill. Am. W. W. Assoc. Nov., '26.

### J. Sewerage. Sewage and Refuse Disposal

#### a. Sewers and Drains

- Residences Wrecked by Slide at Oakland, Calif.\* Chester R. Hunt. Eng. N. R. Nov. 11, '26.  
 Die Ermittlung der Zuflussstärkenlinie bei der Bemessung von Regenwasserkanälen.\* (The Determination of the Inflow Intensity Lines in the Dimensioning of Rain Water Channels.) Friedrich Reinhold. Gesund. Ing. Oct. 9, '26.

#### b. Sewage Disposal, Purification

- Recent Developments in Activated Sludge Process of Sewage Treatment. Walter C. Roberts. (Paper read before League of California Municipalities.) Mun. & Co. Eng. Oct., '26.  
 Saltburn Sewage. C. W. Spencer. Inst. Mun. & Co. Engrs. Oct. 26, '26.  
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 Conservancy Districts and Their Possibilities. Paul Hansen. (Paper read before Mun. League.) Eng. & Contr. (W. W.) Nov., '26.  
 Sludge Disposal on Farm Land. William Clifford. (Paper read before Royal San. Inst. Cong.) Eng. & Contr. (W. W.) Nov., '26.  
 The Melbourne Sewerage and Sewage Disposal Systems. Engr. Nov. 12, '26.

#### c. Refuse Disposal

- Garbage Disposal.\* Discussion: Walter A. Sperry and Kenneth Allen. Am. Soc. C. E. Nov., '26.  
 Construction of Saskatoon Incinerator.\* G. D. Archibald. Can. Engr. Nov. 9, '26.

### K. Heat Engines

#### b. Steam Turbines

- Die Schwingungen der Räder und Schaufeln in Dampfturbinen.\* (The Vibration of Runners and Blades in Steam Turbines.) W. Hort. Ver. deu. Ing. Serial beginning Oct. 16, '26.

#### c. Gas and Oil Engines

- Two-Cycle Marine Oil Engine.\* Engr. Oct. 15, '26.  
 Research on Oil-Injection Engines for Aircraft.\* William F. Joachim. Mech. Eng. Nov., '26.  
 A 600 B. H. P. Heavy-Oil Engine.\* Engr. Nov. 12, '26.

### L. Electricity

#### a. Production of Electricity

##### 2. Magneto and Dynamo. Electric Machines

- Einfluss des Kohlenstaubfeuerung auf der Bau von Elektrizitätswerken.\* (Influence of the Powdered Coal Furnace on the Construction of Electric Plants.) Friedrich Munzinger. Ver. deu. Ing. Serial beginning Oct. 2, '26.

#### b. Distribution and Transmission of Electricity

##### 1. Power Plants

- New Station at Columbus Embodies Many Refinements.\* Power. Nov. 16, '26.

## c. Electric Lighting

## 1. Arc, Incandescent, Mercury, Vapor, Neon, Lamps, etc.

Street Lighting Pays for Itself. L. A. S. Wood. Mun. & Co. Eng. Oct., '26.

## d. Mechanical Uses of Electricity

## 3. Welding

Can Welding Replace the Rivet? A. M. Candy. Sci. Am. Nov., '26.

## f. Signals and Communication

Rugby Radio Station.\* Arthur Stanley Angwin. Inst. C. E. Vol. 221, 1925-'26, Pt. 1.

The Nature of Speech and Its Effect on Telephone Engineering.\* A. F. Rose. West. Soc. Engrs. Sept., '26.

Reducing Errors in Navy Signalling.\* Sci. Am. Nov., '26.

Transmission Features of Transcontinental Telephony.\* H. H. Nance and O. B. Jacobs. A. I. E. E. Nov., '26.

Les Radiogoniomètres et leurs Applications. (Radiogoniometers and Their Applications.) Gen. Civ. Serial beginning Oct. 2, '26.

## M. Architecture

## a. Educational, Government and Scientific Buildings

Der Um- und Erweiterungsbau des Bühnenhauses der Staatsoper in Berlin. (The Rebuilding and Enlargement of the Stage House of the Municipal Opera in Berlin.) Fürstenau. Z. d. Bauver. Oct. 6, '26.

## c. Residences, Hotels

Immeuble à Loyers à Bon Marché de la Ville de Paris, Rue des Amiraux et Rue Hermann-Lachapelle (18e Arrondissement).\* (Cheap-Renting Houses of the City of Paris, on Rue des Amiraux and Rue Hermann-Lachapelle (18th Arrondissement).) A. Bidault des Chaumes. Gen. Civ. Oct. 9, '26.

## d. Storage Buildings

High-Pressure Gas Holders.\* George T. Horton. West. Soc. Engrs. Sept., '26.

## f. Factories and Mill Buildings

La Manutention Mécanique des Superphosphates à L'Usine de Nantes, de la Compagnie Bordelaise des Produits Chimiques.\* (Mechanical Handling of Superphosphates at the Nantes Plant of the Compagnie Bordelaise des Produits Chimiques.) J. Silvy-Leligois. Gen. Civ. Oct. 2, '26.

## g. Other Buildings

Die neue evangelische Kirche in Arbon.\* (The New Evangelical Church in Arbon.) Schw. Bauz. Oct. 2, '26.

Unterpaster-Garagen.\* (Garages Under Pavements.) Georg Müller. Schw. Bauz. Oct. 30, '26.

## i. Fire Protection

Conclusions from a Study of Recent Earthquakes. Robins Fleming. Eng. Oct. 15, '26.

## O. Administration. Legislation. Economics. Statistics

## g. Engineering Education

Problems of Engineering Education. W. E. Duckering. Eng. Inst. Can. Nov., '26.

## Q. Surveying and Geodesy

Underground Mapping of Oil, Gas and Water Horizons. Stanley J. Davies. Eng. Inst. Can. Nov., '26.

The Development of Aerial Surveying. Eng. Nov. 12, '26.

An Aerial Mapping Camera.\* Engr. Serial beginning Nov. 12, '26.

## R. Landscape Engineering

University Park, Nottingham.\* S. Cawley. Inst. Mun. & Co. Engrs. Nov. 9, '26.

## S. City Planning

Building the City of Arvida.\* H. R. Wake. Eng. Inst. Can. Nov., '26.

Town Planning and Its Relations to the Professions Involved. Discussion: John W. Alvord and William T. Lyle. Am. Soc. C. E. Nov., '26.

The Engineer and the Town Plan. Discussion: Noulau Cauchon, Morris Knowles, and William T. Lyle. Am. Soc. C. E. Nov., '26.

Wohnung, Siedlung, Städtebau und Landesplanung auf der "Gesolei".\* (Residences, Dwellings, City Building and Regional Planning on the "Gesolei".) Helmut Gaumitz. Gesund. Ing. Oct. 30, '26.

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neering proposition, or supervise structural work in Florida. Formerly a railway executive and member of Board of Control

of a Northern city. Financially responsible and of mature age. Reasonable fees or stipends. A-1602.

**EXECUTIVE ENGINEER, M. Am. Soc. C. E.**, Graduate Civil Engineer; age 35; married. Experience covers sales and constructions as district manager for building materials company, construction manager on concrete buildings, having charge of estimating, layouts, and construction. Desires position preferably with small expanding organization offering opportunity of becoming connected with firm. Can handle any part of inside or outside work. A-2980.

**CIVIL ENGINEER, Assoc. M. Am. Soc. C. E.**, Twelve years' experience in drafting, designing, estimating, and other office work, and eleven years, field engineering. Experience covers topographic and land surveys, railroad location, construction, and maintenance, highway engineering, drainage, irrigation, sewerage, and water supply. At present employed, but will consider change. A-5125.

**HYDRO-ELECTRIC CONSTRUCTION ENGINEER, Assoc. M. Am. Soc. C. E.**, Eastern university graduate civil engineer; has held major positions on large hydro-electric projects for past six years. Varied experience of seventeen years. Can handle construction and engineering on hydro-electric work of large magnitude. Available at once. B-3067.

**RECENT GRADUATE**; age 24; single. Desires position with consulting engineer or construction company along sanitary, rein-

forced concrete, or structural lines. 1926 graduate in civil engineering. Year's experience (summer work) in drafting, surveying, and office routine. Available immediately. Location, Baltimore, Md., preferred. C-1946.

**SALES ENGINEER OR EXECUTIVE, Assoc. M. Am. Soc. C. E.**, promotion of structural materials, lumber and timber, steel, reinforced concrete. Graduate civil engineer. Eight years, structural design, details, buildings, bridges; five years, consulting practice, design, appraisals, quantities, estimates, inspection, materials, structures; eight years, own organization. Business research, retail distribution, manufacturing, industrial, and trade association executive. C-2124.

**MEMBER, AM. SOC. C. E.**; graduate; middle age; married. Well-rounded experience, estimating, designing, selling, conveying machinery, structural steel, plate steel, bridges, foundations, reinforced concrete, sewers, dredging, pavements, both Government and private contracts. C-2169.

**STRUCTURAL ENGINEER, Assoc. M. Am. Soc. C. E.**; age 38; married. Sixteen years' experience, ten years with bar companies. Specialist in design and detail of reinforcing steel and allied products. Construction experience in all classes of buildings, subways and tunnels, industrial and power plants. Estimating and drafting. Can handle estimating department, or drafting-room. Salary \$3 600. Location, United States. C-2204.

## Membership

(From November 3 to December 7, 1926)

### Additions

		Date of Membership.
AEGERTER, William Carl. Structural Engr., Capitol Steel Corporation (Res., 600 Kohler Court), Lansing, Mich.....	Jun.	Nov. 15, 1926
AMES, Leslie Russell. Acting State Highway Engr., State Highway Comm., Box 725, Raleigh, N. C.....	M.	Nov. 15, 1926
ANDERSON, Russel Averill. Constr. Supt. and Engr., R. D. Baker Co., Detroit (Res., 419 Ninth St., Apartment 1, Royal Oak), Mich. }	Jun.	Nov. 26, 1923
ASHLEY, Wells Hine. Asst. Engr., San. Dist. of Chicago (Res., 6348 Kenwood Ave.), Chicago, Ill.....	Assoc. M.	June 7, 1926
AVERY, Theodore Albert. Deputy County Engr., Dept. of Highways, Westchester County, Court House (Res., 22 Valley Rd.), White Plains, N. Y.....	Assoc. M.	Nov. 15, 1926
AYERS, James Robert, Jr. Senior Draftsman, City Eng. Dept., Houston, Tex.....	M.	Nov. 15, 1926
BABCOCK, Charles David. Engr., Day & Zimmermann Eng. & Constr. Co., 1600 Walnut St. (Res., 6206 North Park Ave.), Philadelphia, Pa.....	Jun.	Nov. 15, 1926
BAXTER, Frank Edwin, Jr. Asst. Engr., Pacific Gas & Elec. Co., 245 Market St., San Francisco, Calif.....	M.	Nov. 15, 1926
BECK, Paul Leo. Asst. Engr., Valuation Dept., S. P. Co., 555 Post St., San Francisco, Calif.....	Assoc. M.	Nov. 15, 1926
BENHAM, Sanford Weaver. Research Asst., Portland Cement Assoc., 33 West Grand Ave. (Res., 1621 West Division St.), Chicago, Ill.....	Assoc. M.	Nov. 15, 1926
BERGEN, Harry Maddock. Res. Engr. on County Causeway, 3037 Southwest 4th St., Miami, Fla.....	Jun.	Nov. 15, 1926
BERNHANG, Samuel. 1701 Arch St., Room 306, Philadelphia, Pa.	Assoc. M.	Nov. 15, 1926
BERTWELL, William. Draftsman, Am. Bridge Co., 261 Chase St., Gary, Ind.....	Jun.	Nov. 15, 1926
BETAQUE, Harry Andrew. Chf. Engr., The Celite Co., Box 417, Lompoc, Calif.....	Assoc. M.	Sept. 9, 1919
BIELE, Frederick John. Sales and Const. Engr., 7622 Seventh Ave., Brooklyn, N. Y.....	M.	Oct. 1, 1926
BLANK, Albert Stein. Town Engr. and Supt. of Constr. (Res., 66 Malone Ave.), Belleville, N. J.....	M.	Nov. 15, 1926
BOND, John Henry, Jr. 99 Fairview Ave., Jersey City, N. J.....	Assoc. M.	Nov. 15, 1926
BOND, Thomas Sawyer. Asst. Chf. Engr., I. & G. N. R. R., Palestine, Tex.....	Jun.	Nov. 15, 1926
BROWN, Carey Herbert. Engr., National Capital Park and Planning Comm., Room 1621, Navy Bldg., Washington, D. C.....	M.	Nov. 15, 1926
BUCHANAN, Spencer Jennings. Instrumentman, G. H. & S. A. Ry. (Res., 810 Erie Ave.), San Antonio, Tex.....	Jun.	Nov. 15, 1926
BUELL, Raymond Cox. Structural Engr., Portland Cement Assoc. (Res., 825 Sutter St.), San Francisco, Calif.....	Assoc. M.	Nov. 15, 1926
CAICEDO, Pablo Enrique. Bucaramanga, Colombia.....	Assoc. M.	June 7, 1926
CAMILLI, David. Designing Draftsman, Bureau of Bridges, Allegheny County, 519 Smithfield St. (Res., 519 Larimer Ave.), Pittsburgh, Pa.....	Jun.	Nov. 15, 1926
CAMPAGNE, Jan van Lookeren. Civ. Engr., F. L. Smidth & Co., 50 Church St. (Res., 317 East 17th St.), New York, N. Y.....	Jun.	Aug. 4, 1924
CARPENTER, Lewis Van. Asst. Prof., San. Eng., Univ. of West Virginia, Box 562, Morgantown, W. Va.....	Assoc. M.	Nov. 15, 1926
CARRICK, Richard Scott. 1202 Hobart Bldg., San Francisco, Calif.	Assoc. M.	Oct. 1, 1926
CATCHINGS, William Baird. Constr. Engr., State Highway Comm., 404 Professional Bldg., Raleigh, N. C.....	Assoc. M.	Nov. 15, 1926
CHEW, Russell Wagner. Y. M. C. A., Pottstown, Pa.....	Jun.	Nov. 15, 1926
CHRISTIAN, Valentine. Office Mgr., Henry Manley, New York (Res., 55-21 Toledo St., Elmhurst), N. Y.....	Jun.	Nov. 25, 1919
CLAIR, Miles Nelson. Testing and Designing Engr., The Thompson & Lichtner Co., Inc., 80 Federal St., Boston, Mass.....	Assoc. M.	Nov. 15, 1926
CLUTTER, Ernest Earle. 351 West 21st St., New York, N. Y.....	Jun.	Feb. 25, 1924
COKER, William Caleb. Care, Wm. C. Whitner & Co., Inc., Box 1412, Richmond, Va.....	Assoc. M.	Nov. 15, 1926
COMPTON, Charles Ross. Office Engr., Los Angeles County Sanitation Dist., 328 South Hudson Ave., Pasadena, Calif.....	Jun.	Oct. 1, 1926
CORNELISON, Jesse Ions. City Engr., City of Magnolia Park, 919 Dallas Ave., Houston, Tex.....	Assoc. M.	Nov. 15, 1926
CORWIN, Thornton Johnson, Jr. Asst. Engr., Pacific Gas & Elec. Co., 245 Market St., Room 1128, San Francisco, Calif.....	Jun.	Oct. 15, 1923
COTTERELL, Ernest Harry. Chf. Engr., National Surety Co., 115 Broadway, New York, N. Y. (Res., 229 High St., Nutley, N. J.) }	Assoc. M.	Nov. 15, 1926
CRAIG, Emmett Girard. Care, Gen. Eng. & Management Corporation, 165 Broadway, New York, N. Y.....	M.	Nov. 15, 1926
CREEKBAUM, Cornell William. County Engr., Charlotte County; Cons. Engr., Commercial Eng. Co., Box 398, Punta Gorda, Fla.	Assoc. M.	Nov. 15, 1926
CRITCHFIELD, Charles Lee. 311 Rochelle St., Mt. Oliver Branch, Pittsburgh, Pa.....	Jun.	Oct. 1, 1926



MEMBERSHIP—(Continued)		Date of Membership.	
DANNENBAUM, Joseph Bowman. Constr. Engr., 710 Banker's Mortgage Bldg., Houston, Tex.	Jun.	May 19, 1924	
DAY, George Jefferson. 613 Chicago Ave., East Chicago, Ind.	Assoc. M.	Nov. 15, 1926	
DECHANT, Frederick Hagman. Cons. Engr. (Wm. H. Dechant & Sons), 632 Washington St., Reading, Pa.	Jun.	Oct. 1, 1926	
DEIGNAN, John Eugene. 39 South Munn Ave., East Orange, N. J.	Assoc. M.	Nov. 9, 1920	
DIEFENDORF, Adelbert. Asst. Prof., Civ. Engr., South Dakota State School of Mines, Rapid City, S. Dak.	M.	Oct. 1, 1926	
DOLLINGER, Francis Albert. 1385 West Wood St., Decatur, Ill.	Jun.	Nov. 15, 1926	
DOMAS, Joseph John. 723 Eleventh Ave., Long Island City, N. Y.	Assoc. M.	Mar. 12, 1923	
DONAGHEY, John Thomas. State Highway Engr., Wisconsin Highway Comm. (Res., 2247 Fox Ave.), Madison, Wis.	M.	Oct. 1, 1926	
DOOLING, Clarence Robert. Asst. Dist. Engr., Dist. 9, Illinois Div. of Highways, Carbondale, Ill.	Jun.	Nov. 15, 1926	
DOW, Daniel Frederick. Engr., Pigeon River Power Co.; Res. Engr., Phoenix Utility Co., Box 1378, Asheville, N. C.	Assoc. M.	Aug. 30, 1926	
DOW, Raymond. 107 West 103d St., New York, N. Y.	M.	Nov. 15, 1926	
DRON, John Anderson. 1518½ Buena Vista St., Ventura, Calif.	Jun.	Nov. 15, 1926	
EASTERDAY, Elton Ellsworth. Asst. and Acting Div. Engr., Water Div., City of St. Louis (Res., 4539 Arco Ave.), St. Louis, Mo.	Assoc. M.	Aug. 30, 1926	
EVANS, Wallace Bryant. Box 1125, Douglas, Ariz.	Jun.	June 7, 1926	
FAIN, William Hart. Engr., National Magnesia Mfg. Co., Box 177, Lompoc, Calif.	Jun.	Nov. 15, 1926	
FELLOWS, Luther James. Estimator and Designer, Long-Bell Lumber Co., Box 53, Longview, Wash.	M.	Aug. 30, 1926	
FLEMING, Elmer Morton. 764 East 42d St., Indianapolis, Ind.	M.	Nov. 15, 1926	
FLOM, Samuel Louis. Branch Mgr., Tampa Office, Truscon Steel Co., 320 Lafayette Arcade, Tampa, Fla.	Jun.	Nov. 15, 1926	
FOLLETT, Donald Gordon. 5334 Angorra Terrace, West Philadelphia, Pa.	Assoc. M.	Nov. 15, 1926	
FOOTE, Francis Chandler. Senior Asst. Engr., Morris Knowles, Inc., 507 Westinghouse Bldg., Pittsburgh, Pa.	Assoc. M.	Nov. 15, 1926	
FOX, Paul Samuel. Chf., Div. of San. Eng. and Sanitation, New Mexico Bureau of Public Health, Box 740, Santa Fe, N. Mex.	Assoc. M.	Nov. 15, 1926	
FRAIVILLIG, Leonard Martin. Estimator, Dravo Contr. Co., 1517 Ridge Ave., Coraopolis, Pa.	Jun.	Oct. 1, 1926	
FRAME, James. Branch Mgr., Western Waterproofing Co., 719 Johnston Bldg., Charlotte, N. C.	Affiliate	Nov. 15, 1926	
FREEMAN, Orville William. 448 West 20th St., New York, N. Y.	Jun.	Nov. 15, 1926	
FREEMAN, Raymond Allison. Instrumentman, D. P. Robinson Co. (Res., 114 The Fenway), Boston, Mass.	Jun.	Nov. 15, 1926	
FROST, Richard Warren. 318 Pleasant St., Belmont, Mass.	Jun.	Oct. 1, 1926	
GERDES, William Frederick, Jr. 336 South 24th St., Quincy, Ill.	Jun.	Nov. 15, 1926	
GILES, Ranald Victor. Care, Hazen & Whipple, Box 1527, West Palm Beach, Fla.	Jun.	July 12, 1926	
GIORDANO, Costante Anthony. Engr. and Draftsman, Bureau of Eng. (Res., 88 Wooster St.), New Haven, Conn.	Jun.	Nov. 15, 1926	
GOETZMANN, Arthur Charles. 58 East Utica St., Buffalo, N. Y.	Jun.	Oct. 1, 1926	
GOODLOE, William Hopson. Care, Young & Goodloe, Inc., 3412 Berchman St., Jacksonville, Fla.	Assoc. M.	Nov. 15, 1926	
GOSTANIAN, Gostan Kozar. 32 Lincoln St., Somerville, Mass.	Jun.	Nov. 15, 1926	
GOTTILIEB, Alex Philip. Junior Structural Steel Estimator, Hinkle Steel Constr. Co., New York, N. Y. (Res., 15 Andrew St., Bayonne, N. J.)	Jun.	Nov. 15, 1926	
GRAHAM, Lyman Davis. Hydrographic and Geodetic Engr., U. S. Coast and Geodetic Survey, Steamer <i>Lydonia</i> , Wilmington, N. C.	Assoc. M.	Nov. 15, 1926	
GREGORY, Horace Whiting. State Director of Highways, Box 1467, Boise, Idaho.	M.	Nov. 15, 1926	
GRUESSNER, Edwin Allan. 1554 Ocean Ave., Brooklyn, N. Y.	Jun.	Nov. 15, 1926	
GUTEKUNST, George John. Chf. Engr., The Tilt-Hargan Co., 90 West Broadway, New York (Res., 73 New St., Port Richmond), N. Y.	Assoc. M.	Nov. 15, 1926	
HAKIN, Walter Alwyne. 4550 Rohms Ave., Detroit, Mich.	Jun.	Nov. 15, 1926	
HAMILTON, William Henry. 526 Beacon St., Boston, Mass.	Jun.	Nov. 1, 1926	
HAUG, Thaddeus Leon Euclid. Structural Engr., East Bay Municipal Utility Dist., Oakland (Res., 2315 Durrant Ave., Berkeley), Calif.	M.	Nov. 15, 1926	
HENDERSHOT, Fred. Asst. Engr., Div. of Waterways, Illinois Waterway, 608 South Dearborn St., Room 950, Chicago, Ill.	Jun.	Oct. 10, 1921	
HILES, Robert Eugene. 402 Commerce St., Little Rock, Ark.	Assoc. M.	July 12, 1926	
HILL, Jesse. Topographic Engr., International Boundary Comm., United States, Alaska, and Canada, 205 New Jersey Ave., S. E., Washington, D. C.	Jun.	Oct. 1, 1926	
HOAR, William Hughes. 234 Fourth Ave., Phoenixville, Pa.	M.	Nov. 15, 1926	
HOEFLE, Karl Frederick. Asst. Engr., Nagle & Thompson, Dallas (Res., 912 Carrier St., Denton), Tex.	Jun.	Oct. 1, 1926	
HOBY, John Vallely. Sales Engr., Consolidated Expanded Metal Companies, Philadelphia (Res., 824 West Marshall St., Norristown), Pa.	Assoc. M.	Nov. 15, 1926	
HOFFMANN, Joseph Theodore. 3317 Michigan Ave., Detroit, Mich.	Assoc. M.	Nov. 15, 1926	
HORNBY, Poul Lahn. Reinforced Concrete Designer, Elec. Bond & Share Co., 65 Broadway, New York (Res., 83 Delaware Ave., Flushing), N. Y.	Jun.	Oct. 1, 1926	
	Assoc. M.	Nov. 15, 1926	

## MEMBERSHIP—(Continued)

		Date of Membership.
HOWELLS, Hamilton Richmond.	Cons. Hydr. Engr. (Howells & Howells), 550 Holbrook Bldg., San Francisco, Calif.	Assoc. M. Nov. 15, 1926
HUGHES, Thomas Rogers.	Care, Am. Water Works & Elec. Co., Inc., 50 Broad St., New York, N. Y.	Jun. Nov. 15, 1926
JOHN, Emil Victor.	51 Fourteenth Ave., West, Cedar Rapids, Iowa.	Jun. Oct. 1, 1926
JOHNSON, Robert Colton.	Chf. Engr., Immel Constr. Co., Fond du Lac, Wis.	Assoc. M. Nov. 15, 1926
JOHNSON, William Scott.	Chf. San. Engr., State Board of Health, Jefferson City, Mo.	Assoc. M. Nov. 15, 1926
JORDAN, Frank.	Quantity Surv., 3210 Perry Ave., New York, N. Y.	Assoc. M. Nov. 15, 1926
JORGENSEN, Aksel Henry.	Asst. Engr., New York and New Jersey Bridge and Tunnel Comm., Room 3114, Woolworth Bldg., New York, N. Y.	M. Nov. 15, 1926
JOYNT, Philip Donnelly.	University Club, Bethlehem, Pa.	Jun. June 7, 1926
KEARNEY, John Joseph.	City Engr. (Res., 3238 Wenonah Ave), Berwyn, Ill.	Assoc. M. Nov. 15, 1926
KELLER, Olin Earl.	Care, The Philip Carey Co., 278 Twelfth St., N. E., Atlanta, Ga.	Jun. June 7, 1926
KELLY, Paul Augustine.	With Gen. Eng. & Management Corporation, 165 Broadway, New York (Res., 278 Warburton Ave., Yonkers), N. Y.	Assoc. M. Aug. 30, 1926
KEMPER, Paul Rodgers.	Box 126, Alhambra, Calif.	Jun. Nov. 15, 1926
KERR, Samuel Logan.	Asst. Hydr. Engr., I. P. Morris Dept., Wm. Cramp & Sons Ship & Engine Bldg. Co., Richmond and Norris Sts., Philadelphia, Pa.	Jun. Jan. 19, 1925
KIEF, Caswell Ward.	Draftsman, Pacific Telegraph & Telephone Co., 1146 Eighteenth Ave., North, Seattle, Wash.	Assoc. M. June 7, 1926
KINGSCOTT, Louis Clifton.	Estimator, DeRight Bros. Constr. Co., 300 McNair Bldg., Kalamazoo, Mich.	Jun. July 9, 1923
KIRBY, Herman Estel.	1005 Poca Ave., Roncove, W. Va.	Assoc. M. Nov. 15, 1926
KNUDSEN, Paul.	Asst. City Engr. (Res., 432 Harrison Ave.), Ventura, Calif.	Jun. Nov. 15, 1926
KOEBERLE, Harold.	Draftsman, Illinois Steel Co., 7027 Woodlawn Ave., Chicago, Ill.	Assoc. M. Nov. 15, 1926
KUCHAR, Joseph Jaromir.	Contr. (Kuchar Bros.), Montvale, N. J.	Jun. Nov. 15, 1926
KUEHNE, Walter Fred.	1203 Franklin Ave., Wilkinsburg, Pa.	Jun. June 16, 1919
LANDRIEU, Francis Albert.	Draftsman, Board of Commrs., Port of New Orleans (Res., 1113 North Rampart St.), New Orleans, La.	Assoc. M. Jan. 15, 1926
LARKEY, Laurence Jay.	Care, Jones & Laughlin Steel Corporation, Memphis, Tenn.	Jun. Oct. 1, 1926
LARSON, Harry Gustave.	Secy. and Treas., Jones Smith Co., Inc., Maspeth (Res., 23 East 12th St., Whitestone), N. Y.	Jun. Nov. 15, 1926
LEONARD, James Irving.	Asst. Valuation Engr., F. J. & G. R. R., 431 North Main St., Gloversville, N. Y.	Jun. July 9, 1923
LEWANDORF, Samuel Carlos.	Chf. Engr., National Survey Service, Inc., 803 Leader Bldg., Cleveland, Ohio.	Assoc. M. June 7, 1926
LIU, Hsi-Ku.	62 West 68th St., Chicago, Ill.	Assoc. M. Nov. 15, 1926
LOCKHARDT, William Francis.	Dist. Structural Engr., Portland Cement Assoc., 347 Madison Ave., New York, N. Y.	Jun. July 12, 1926
LOGAN, Eugene.	Civ. Engr., 720 Peyton Bldg., Spokane, Wash.	Assoc. M. Nov. 15, 1926
LOMMEL, George Edward.	Associate Prof., School of Civ. Eng., Purdue Univ., Lafayette (Res., 817 North Main St., West Lafayette), Ind.	Assoc. M. Jan. 19, 1920
LONG, Harry Driesbach.	305 Henry Ave., Sewickley, Pa.	M. Oct. 1, 1926
LUCCHETTI-OTERO, Antonio Sebastian.	Chf. Engr., Porto Rico Irrig. Service, Guyama, Porto Rico.	Assoc. M. Nov. 15, 1926
LUDWIG, Charles Philip.	Chf. of Party, The Mariemont Co. (Res., 6786 Chestnut St.), Mariemont, Cincinnati, Ohio.	Jun. Jan. 3, 1911
MACRAE, Cameron Farquhar, Jr.	Instrumentman, C. E. Waddell & Co., Jackson Bldg., Asheville, N. C.	Assoc. M. Mar. 13, 1917
MCCOLLOMS, Max Reed.	Engr. in Chg. of Constr., J. J. Jessup, Los Angeles (Res., 151 West Center St., Anaheim), Calif.	M. Oct. 1, 1926
MCGRAW, Harry.	County Road Engr., Brooke County, Box 506, Wellsburg, W. Va.	Jun. Nov. 15, 1926
MCLENNAN, John Bertrand.	Architectural Engr., Board of Education (Res., 1644 North Moody Ave.), Chicago, Ill.	Assoc. M. June 7, 1926
MCMASTER, Alfred Dennis.	Junior Engr., State Highway Comm. (Res., 39 Bentley Ave.), Jersey City, N. J.	Assoc. M. Nov. 15, 1926
MCQUADE, Thomas Francis.	Asst. Engr., Board of Transportation, 49 Lafayette St., New York, N. Y.	Jun. July 12, 1926
MADLUNG, Edward William.	Structural Engr., Baker Iron Works (Res., 1423 Dana St.), Los Angeles, Calif.	M. Nov. 15, 1926
MASTRIANI, Samuel Gabriel.	Y. M. C. A., Pottstown, Pa.	Assoc. M. Nov. 15, 1926
MAURY, Richard Fontaine.	Ingeniero Gefta, F. C. Salta a Chile, Campo Quijano, Provincia de Salta, Argentine Republic.	Jun. Nov. 15, 1926
		M. Aug. 30, 1926

MEMBERSHIP—(Continued)		Date of Membership.
MAVIS, Frederic Theodore. Office Engr., Kelker, De Leuw & Co., 1326 Conway Bldg., Chicago, Ill.	Jun. Assoc. M.	Jan. 15, 1923 Nov. 15, 1928
MEADOWS, Nelson Brahm. Junior Asst. Engr., Westchester County Park Comm., Bronxville (Res., 341 Saw Mill River Rd., Hastings), N. Y.	Jun.	June 7, 1926
METCALF, William Lovering. Draftsman, Tallassee Power Co., Box 1132, Badin, N. C.	Jun.	Nov. 15, 1926
MEYER, Norton. 2756 Steiner St., San Francisco, Calif.	Jun.	Nov. 15, 1926
MOORE, Thomas Vincent. Care, Raymond Concrete Pile Co., 140 Cedar St., New York, N. Y.	Assoc. M.	July 12, 1926
MOREHOUSE, Wallace Wilber. Gen. Supt., Div. of Water, City of Dayton (Res., 2643 North Main St.), Dayton, Ohio.	Assoc. M.	Nov. 15, 1926
MORGAN, Leigh Ferry. Bldg. Insp., Bldg. Dept., City of Springfield, City Hall Springfield, Mass.	Assoc. M.	Nov. 15, 1926
MORRISON, John Berchmans. Mgr., Highway Bureau, Armco Culvert & Flume Mfrs. Assoc., Am. Legion Home, Middletown, Ohio	Assoc. M.	Nov. 15, 1926
NEEL, George Marshall. State Engr. (Res., 528 Don Gasper Ave.), Santa Fé, N. Mex.	M.	Nov. 15, 1926
NELSON, Donald Orelup. Dist. Engr., Truscon Steel Co., 463 Kerby St. (Res., 351 East 54th St.), Portland, Ore.	Assoc. M.	Aug. 30, 1926
NEUBERGER, Edmond Frederick. 82 Myrtle Ave., Plainfield, N. J.	Assoc. M.	April 20, 1925 Nov. 15, 1926
NEWMAN, Arthur Hempstead. Architectural Draftsman, Moores & Dunford, Inc., Bowery Bank Bldg., New York (Res., Bridge Hampton), N. Y.	Jun. Assoc. M.	Feb. 25, 1924 Nov. 15, 1926
NOLEN, John. City Planner, Harvard Sq., Cambridge, Mass.	M.	Nov. 15, 1926
OBLAN, Jacob Caleb. Civ. Engr., 200 Winthrop St., Brooklyn, N. Y.	Jun. Assoc. M.	May 19, 1924 Nov. 15, 1926
O'BRIEN, Edward Carey. Field Engr., Gibbs & Hill, Care, Cartwright, 170 West 75th St., New York, N. Y.	Jun. Assoc. M.	Mar. 7, 1921 Nov. 15, 1926
OEHMANN, John William. Insp. of Buildings, District of Columbia, Room 112-a, District Bldg., Washington, D. C.	M.	Nov. 15, 1926
OLIVER, Boyd Emery. Asst. Engr., California Oregon Power Co., Box X, Pittsburg, Calif.	Jun.	Nov. 15, 1926
PACKARD, Royal Day. 213 South Euclid Ave., Oak Park, Ill.	Jun.	Nov. 15, 1926
PATTEN, William Edgar. Prof., Hydr. Eng., Tangshan Univ., Tangshan, North China	M.	Nov. 15, 1926
PATTY, Joseph Charles. Constr. Engr., The Greenville Gravel Co., Greenville, Ohio	Assoc. M.	Oct. 1, 1926
PAULETTE, Robert Justice. Cons. Engr. (Paulette Eng. Co.) (Res., 1104 South Santa Fé St.), Salina, Kans.	M.	Nov. 15, 1926
PENN, Harold Vincent. Asst. to Vice-Pres., Atlantic Gulf & Pacific Co., 15 Park Row, New York, N. Y.	Assoc. M.	Nov. 15, 1926
PERKINSON, Perry Melvin. Asst. Highway Engr., Box 161, Staunton, Ill.	Assoc. M.	Nov. 15, 1926
PERRIN, William Weaver. Field Engr., The Aetna Casualty & Surety Co., Hartford, Conn.	Jun. Assoc. M.	May 28, 1923 Nov. 15, 1926
PICKETT, Charles Marvin, Jr. 234 Fourth Ave., Phoenixville, Pa.	Jun.	Oct. 1, 1926
PILCHER, Harvey Benson. Div. Engr., Wabash Ry., 1912 South 5th St., Springfield, Ill.	Assoc. M.	Nov. 15, 1926
PORTER, James Walter. Res. Engr., The Terrell Bartlett Engrs., Inc., 612 Calcasieu Bldg., San Antonio, Tex.	Jun. Assoc. M.	Dec. 15, 1924 Nov. 15, 1926
PROTHEROE, Maurice Raymond. Insp., U. S. Engr. Service, U. S. Engr. Office Galveston, Tex.	Jun.	Nov. 15, 1926
PURDY, Wesley Wallace. (The Purdy Const. Co.), 173 West 2d St., Mansfield, Ohio	Assoc. M.	Nov. 15, 1926
READ, Henry Whitaker. Res. Engr., William T. Donnelly, New York, N. Y. (Res., 73 Van Ness Ave., Rutherford, N. J.)	Assoc. M.	June 7, 1926
REAM, John Milton. 567 Grace Ave., Akron, Ohio	Jun.	Oct. 1, 1926
REEDY, Morris. 710 Santa Fé Bldg., Dallas, Tex.	Jun.	July 12, 1928
REILLY, Albert Raymond. Structural Engr., Board of Education, 115 Longacre Rd., Rochester, N. Y.	M.	Nov. 15, 1926
RENN, Raymond William. 4414 Kemper Ave., St. Bernard, Ohio.	Jun.	Nov. 15, 1926
RICE, George Peter. Chf. Engr., Lukens Steel Co., Box 320, New Orleans, La.	Assoc. M.	July 12, 1926
RIGHTS, Theodore Balfour. Engr., The Foundation Co., 120 Liberty St., New York, N. Y. (Res., 444 Mercer Ave., Roselle, N. J.)	Jun. Assoc. M.	May 19, 1924 Nov. 15, 1926
ROBICHAU, Harold Vincent. Draftsman, Stone & Webster, Inc., 147 Milk St., Boston, Mass. (Res., 17 Gramercy Park, New York, N. Y.)	Jun.	Nov. 15, 1926
ROBINSON, Percy Ralph. Field Supt., Moran, Maurice & Proctor, 342 Madison Ave., New York, N. Y.	Jun. Assoc. M.	Nov. 21, 1921 Nov. 15, 1926
ROGOW, Sydney. Mgr., Eng. Dept., Louisville Builders Supply Co. (Res., 1920 Trevillian Way), Louisville, Ky.	Jun. Assoc. M.	April 14, 1913 Nov. 15, 1926
ROLLINS, John Martin. Box 156, Lytle, Tex.	Jun.	Nov. 15, 1926
ROSS, Franklin William. Supt. of Constr., Golden Park Beach Realty Corporation, 306 Orient Way, Rutherford, N. J.	Jun.	Nov. 15, 1926
ROWAN, William Hamilton. 2503 Kensington Pl., Apartment 4, Nashville, Tenn.	Jun.	Oct. 1, 1926

## MEMBERSHIP—(Continued)

		Date of Membership.
ST. CLAIR, William Thaddeus. Draftsman, State Highway Comm. (Res., 3422 Garland Ave.), Richmond, Va.	Jun.	Oct. 1, 1926
SCHMIDT, Richard Wagner. Civ. Engr., Sewer Design, City of St. Louis, 326 City Hall (Res., 4001 Washington Boulevard), St. Louis, Mo.	Jun. Assoc. M.	Jan. 15, 1923 Nov. 15, 1926
SCHOFIELD, Edwin Rose. Asst. Engr., Bureau of Surveys and Bureau of Eng. (Res., 462 Monastery Ave., Roxborough), Philadelphia, Pa.	M.	Nov. 15, 1926
SCHROEDER, Edward Albert. Transitman, New York Title & Mortgage Co., 549 Twelfth St., West New York, N. J.	Jun.	Dec. 3, 1926
SCHULTES, Armin Meyer. Junior Civ. Engr., Dept. of Sewers and Paving (Res., 3228 South Jefferson Ave.), St. Louis, Mo.	Jun.	Nov. 15, 1926
SCHWEITZER, Reuben Richard. Vice-Pres. and Chf. Engr., Layne-Atlantic Co., Seaboard Ry. Bldg., Norfolk, Va.	M.	Nov. 15, 1926
SCOTT, Frederick William. Care, The Foundation Co., Inc., 110 Avenue de Republique, Salonika, Greece.	Assoc. M. M.	Jan. 14, 1924 Oct. 1, 1926
SCULLEN, Anthony James. Prof., Civ. Eng., Catholic Univ. of America (Res., 1224 Lawrence St., N. E.), Washington, D. C.	M.	Oct. 1, 1926
SENSING, Wilbur Carson. Estimator and Designer, Wilson-Weesner-Wilkinson Co., 108 Fatherland St., Nashville, Tenn.	Jun.	Nov. 15, 1926
SEWELL, Walter Edwin. Univ. of Georgia, Dept. of Math., Athens, Ga.	Jun.	Oct. 1, 1926
SHEPPARD, Kenneth Anthony. Surveyman, U. S. War Dept., Lock and Dam 52, Ohio River, Brookport, Ill.	Jun.	Nov. 15, 1926
SHERMAN, Richard Winslow. 16 Myrtle St., Belmont, Mass.	Jun.	Oct. 1, 1926
SHOOK, Lynn Thomas. Asst. to Chf. of Surveys, Dixie Const. Co. (Res., 1031 North 30th St.), Birmingham, Ala.	Assoc. M.	Oct. 1, 1926
SIMMS, Alfred Aston. Asst. Constr. Engr., Kingston & St. Andrew Corporation, Kingston (Res., "Acton," Hope Rd., Halfway Tree P. O.), Jamaica.	Assoc. M.	Nov. 15, 1926
SISCO, Spencer Edward, Jr. 14 South Munn Ave., East Orange, N. J.	Jun.	June 7, 1926
SMEAD, Ralph Amsden. Structural Engr., Albert Kahn, Inc., 121 Connecticut Ave., Highland Park, Mich.	Assoc. M.	Nov. 15, 1926
SMITH, J. George. Civ. Engr., California Pacific Title Insurance Co., 148 Montgomery St., San Francisco (Res., 2732 Benvenue Ave., Berkeley), Calif.	Assoc. M.	Nov. 15, 1926
SMITH, Paul James. Senior Eng. Draftsman, U. S. Hydrographic Office, Navy Dept., Washington, D. C. (Res., 1516 West Erie Ave., Philadelphia, Pa.)	Jun. Assoc. M.	Nov. 15, 1926 Aug. 30, 1926
SOMERS, Newton Lloyd. Care, R. E. Somers, Simcoe, Ont., Canada.	Assoc. M.	Nov. 15, 1926
SPOCKARD, Harold Ewing. Sales Engr., Western Metal Mfg. Co., Box 818, Dallas, Tex.	Assoc. M.	Nov. 15, 1926
SPRAGER, Samuel Olter. Cons. Engr., 711 Central Bldg., Los Angeles, Calif.	Assoc. M. Jun.	Nov. 15, 1926 Nov. 15, 1926
SQUIRES, John Hamilton. Apartado 97, Monterrey, N. L., Mexico.	Jun.	Nov. 15, 1926
STANLEY, Claude Maxwell, Jr. Draftsman, Byllesby Eng. & Management Corporation, 1508 Larrabee, Chicago, Ill.	Jun.	Nov. 15, 1926
STANLEY, Robert Tallmadge. 2601 Forty-ninth St., S. E., Portland, Ore.	Jun.	Oct. 1, 1926
STEVENS, Clarence Ellsworth. Superv. Constr. Engr., Board of Education, Columbia School Bldg., South Orange (Res., 542 South Clinton St., East Orange), N. J.	Assoc. M. Jun.	Aug. 30, 1926 Nov. 15, 1926
STOCKER, Dwight Lathrop. Multnomah Hotel, Portland, Ore.	Assoc. M.	Nov. 15, 1926
STOCKTON, Haywood Paul, Jr. Civ. Engr. (Edwards & Stockton), Moore Bldg., San Antonio, Tex.	Assoc. M.	Nov. 15, 1926
STRUCK, Henry Edward. 717 South Glenwood, Springfield, Ill.	Jun.	Nov. 15, 1926
SUCKOW, Vernon Christopher. Cons. Engr., 436 Central Bldg., Seattle, Wash.	M.	Nov. 15, 1926
SUNDAR, Padma Malla. Care, Ludlow Jute Co., Ltd., P. O. Chackasi, Chengail, Dist. Howrah, Bengal, India.	Jun.	Aug. 30, 1926
TAYLOR, Alexander Ogden. Civ. Engr. and Surv. (Butler, Barnett & Taylor), Box 2736, West Palm Beach, Fla.	Assoc. M.	Nov. 15, 1926
TAYLOR, Charles Bagwell. Chf. Draftsman, Los Angeles County San. Dist., Los Angeles (Res., 991 North Orange Grove Ave., Hollywood), Calif.	Assoc. M.	Nov. 15, 1926
TAYLOR, George Allison. Structural Engr. in Chg. of Bridges, Buildings, and Docks (Res., 621 Coney Court), Toledo, Ohio.	M.	Nov. 15, 1926
TAYMAN, Nelson Grant. Apartment 17, El Dorado Apartments, El Dorado, Ark.	Assoc. M.	Nov. 15, 1926
TEAFF, Clarence Nimrod. City Engr., Daytona Beach, Fla.	Assoc. M.	Nov. 15, 1926
TILTON, Charles Wilfrid. Boston Representative, Van R. P. Saxe, 44 Quint Ave., Allston, Mass.	Jun. Jun.	July 12, 1926 Oct. 3, 1905
TINKHAM, Ralph Russell. Supt. of Lighthouses, 19th Dist., 201 Federal Bldg., Honolulu, Hawaii.	Assoc. M. M.	Sept. 6, 1910 Oct. 1, 1926
TRIMBLE, Ralph McCoy. Box 926, Chapel Hill, N. C.	Jun.	July 12, 1926
VALLE ZENO, Carlos del. Cons. and Const. Engr., 50 Church St., New York, N. Y.	Assoc. M. M.	April 1, 1908 Oct. 1, 1926
VALLET, Stanley Frederick Louis. 309 West Franklin, Richmond, Va.	Jun.	Oct. 1, 1926
VERVAKE, Albert Joseph. Field Engr. for H. H. Esselstyn, 2187 Fisher Ave., Detroit, Mich.	Assoc. M.	Nov. 15, 1926



MEMBERSHIP—(Continued)		Date of Membership.	
VISSER, William Rienze. Draftsman and Computer, Isaacson Iron Works (Res., 3614 Meridian Ave.), Seattle, Wash.....	Jun.	Oct. 1, 1926	
WAGSTAFF, John Perry. Structural Steel Detailer, Virginia Bridge & Iron Co., 112 Cambridge Ave., Roanoke, Va.....	Jun.	Nov. 15, 1926	
WEISS, Camillo. Structural Engr., Bethlehem Steel Co., 744 Eighth Ave., Bethlehem, Pa.....	M.	Nov. 15, 1926	
WELLS, George Eugene, Jr. 400 Security Bldg., St. Louis, Mo....	Jun.	Nov. 15, 1926	
WEST, Harry Lewis. Asst. Supt., Transcontinental Petroleum Co., Apartado 657, Tampico, Tamps, Mexico.....	Assoc. M.	Nov. 15, 1926	
WHITE, Clark Leo. Engr., Koppers Constr. Co. (Res., 193 Clay St., Rochester), Pa.....	Jun.	July 12, 1926	
WHITE, Herbert LeRoy. 512 East Springfield Ave., Champaign, Ill.	Jun.	Nov. 15, 1926	
WHITE, Russell Grant. 334 Thorman Pl., San Antonio, Tex.....	Jun.	Oct. 1, 1926	
WHITMAN, Owen Clifford. Res. Engr., Jacobs & Davies, Inc., New York, N. Y. (Res., 558 Summer Ave., Lyndhurst, N. J.)..	M.	Nov. 15, 1926	
WHITMIRE, Carl Douglas. 5725 Grand Ave., Kansas City, Mo....	Assoc. M.	Nov. 15, 1926	
WILLACKER, Charles Edward. (Joseph Hofman & Co.), 319 Valentine Bldg., Toledo, Ohio.....	Assoc. M.	Nov. 15, 1926	
WILLIAMS, Adrian Harry. 1106 Jefferson St., Corvallis, Ore....	Jun.	Oct. 1, 1926	
WING, Robert Lewis. Asst. Hydr. Engr., State of California Water Resources Investigations (Res., 3200 Cutter Way), Sacramento, Calif.....	Assoc. M.	Oct. 1, 1926	
WITHEE, Joseph Adelbert. 420 South River Boulevard, Independence, Mo.....	Jun.	Nov. 15, 1926	
WRIGHT, Everett Gardiner. Engr. and Estimator, Parklap, Inc., 706 Marquette Bldg., Detroit, Mich.....	Assoc. M.	Nov. 15, 1926	
YOUNG, Jacob Clough. Storrie, Calif.....	Jun.	Nov. 15, 1926	
YOUNG, Joseph Henry. Care, U. S. Dept. of Agriculture, Bureau of Public Roads, 403 Kiesel Bldg., Ogden, Utah.....	M.	Nov. 15, 1926	

### Deaths

ADAMS, Frederick Baird. Elected Associate Member, August 31, 1925; died November 13, 1926.	
BENT, Cornelius Conway Felton. Elected Member, May 1, 1889; died November 11, 1926.	
BETTES, Richard Stockwell. Elected Associate Member, September 12, 1921; died October 19, 1926.	
BROWER, John Lafayette. Elected Member, September 12, 1916; died October 22, 1926.	
DOWS, William Greene. Elected Affiliate, May 28, 1923; died November 25, 1926.	
GAMBLE, Francis Clarke. Elected Member, April 1, 1891; died November 18, 1926.	
GRAVES, James Madison. Elected Member, January 15, 1923; died July 23, 1926.	
HARWOOD, George Alec. Elected Associate Member, February 5, 1902; Member, February 5, 1907; died November 4, 1926.	
KORA, Dahyabhai Balabhai. Elected Associate Member, August 9, 1920; died September 22, 1926.	
LAKE, Edward Nelson. Elected Member, July 1, 1909; died October 15, 1926.	
MORSE, Charles Francis. Elected Member, May 28, 1912; died December 1, 1926.	
NEWMAN, Emil. Elected Member, January 4, 1905; died October 3, 1926.	
PENDLETON, David Elliott. Elected Junior, January 2, 1906; Associate Member, October 31, 1911; died October 26, 1926.	
POETSCH, Charles Julius. Elected Junior, May 4, 1881; Member, May 2, 1883; died October 7, 1926.	
ROWLAND, Charles Bradley. Elected Member, May 1, 1895; died November 1, 1926.	
SCOVILL, Edward Tracy. Elected Member, September 6, 1876; died June 11, 1926.	
THOMES, Edwin Howard. Elected Associate Member, December 6, 1899; Member, December 5, 1911; died October 29, 1926.	
WASHBURN, Charles Emmett. Elected Associate Member, November 28, 1916; died June 12, 1926.	

### Total Membership of the Society, December 7, 1926

Members .....	5 212
Associate Members.....	5 507
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Corporate Members .....	10 719
Honorary Members.....	14
Juniors .....	1 094
Affiliates .....	150
Fellows .....	8
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Total.....	11 985